CLINICAL MEDICINE AND SURGERY

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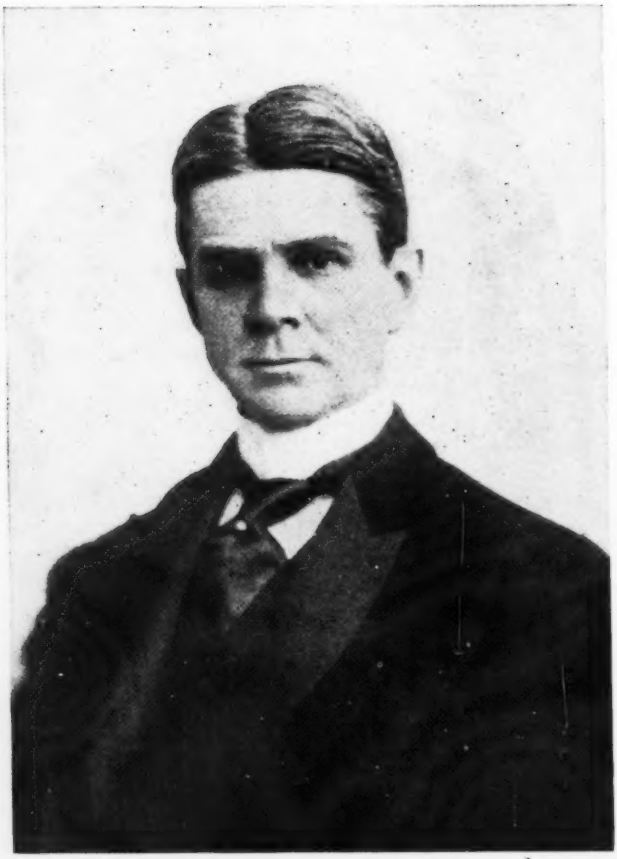

Courtesy of *Medical Life*.

LUTHER EMMETT HOLT, A.B., M.D., LL.D., Sc.D.

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Clinical Medicine and Surgery

GEORGE B. LAKE, M.D., Editor

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★ Editorial ★

Dr. L. Emmett Holt

Popularizer of Pediatrics in America

THE nineteenth century was the era of the beginnings of intensive specialism, which has flourished like the green bay tree in the subsequent decades, and pediatrics was one of the first specialties to branch off from the parent stem of general practice in the United States, under the fostering paternal care of Dr. Abraham Jacobi, who founded the first pediatric clinic in this country, in 1860.

In 1888, Dr. Thomas Morgan Rotch, who made the first scientific studies of infant nutrition in America, became the first professor of pediatrics at Harvard University; and in 1894, Dr. L. Emmett Holt published his first treatise on infant nutrition and entered upon his career as the apostle of pediatrics to the medical profession and the laity, and the leading exponent of that specialty of his generation.

Holt was born in Webster, New York, March 4, 1855, the youngest son in his family, and he took his degree in Arts at the University of Rochester in 1879. In order to earn enough money to enter upon his medical studies, he taught for a year at the Riverside Institute, in Wellsville, New York, and then entered the Buffalo Medical College.

In those days, an undergraduate student was permitted to work in hospital wards, and young Emmett immediately availed himself of that privilege by becoming student assistant to Dr. Virgil P. Gibney, surgeon-in-chief to the New York Hospital for the Ruptured and Crippled. It seems quite probable that the opportunity he thus obtained for observing the need for specialized service among children, may well have determined the character of his life work, for, after graduating, in 1880, and serving for a year as an intern at Bellevue Hospital, he immediately took up the study of the diseases of infancy and childhood, as a specialty.

Dr. Holt had five immensely valuable qualifications for success: A capacity for tireless and sustained effort; the ability to criticize himself, as well as others, with cool impersonality; consummate skill in the

arts of diagnosis; a detailed and comprehensive knowledge of normal and pathologic anatomy; and a genuine gift as a teacher by the written and spoken word. His style was direct, simple, clear, and logical, and, in speaking, his contagious enthusiasm gripped his auditors and carried them along with him. He taught the entire medical profession pediatrics by his book, "The Diseases of Infancy and Childhood" (1897), which was the first really complete and authoritative work on the subject; and there is scarcely an intelligent and literate mother in the United States (especially among those in middle life) who has not referred, as to a holy scripture, to his "Care and Feeding of Infants," during the early life of her children.

For eleven years, Dr. Holt was professor of pediatrics at the Polyclinic Hospital, and for twenty years at the College of Physicians and Surgeons (now Columbia University), and was connected, at various times, with the Northwestern Dispensary, the New York Infant Asylum and Foundling Hospital, the Nursery and Child's Hospital, and (as physician-in-chief) the Babies' Hospital.

After resigning his actual teaching work at Columbia, Dr. Holt gave most of his time to the American Child Health Association. In the autumn of 1923, he went to China, to deliver a course of lectures at Pekin Union Medical College. While there, his health gradually failed, and he died, of myocarditis, January 14, 1924, in the sixty-ninth year of his age.

In addition to his great professional attainments, Dr. Holt was very active in civic affairs and in Organized Medicine. He was (as was to be expected) a charter member and twice president of the American Pediatric Society; a trustee of the New York Academy of Medicine and of the University of Rochester; adviser to the New York Department of Health; and, from its beginning until his death, secretary of the Rockefeller Institute for Medical Research. The University of Rochester gave him his LL.D., and Columbia and Brown Universities both conferred the Sc.D.

We will do well to keep green the memory of this wise and active physician, inspiring teacher, and public-spirited citizen.

The measure of a man's intelligence is the degree to which he keeps his emotions under his own control, instead of letting them control him.—FRANK P. STOCKBRIDGE.

Progress in the Science and Art of Medicine—1938

AGAIN, as in 1937, we are offering our readers the opinions of several of the leaders in medical thought regarding the importance of various relatively new procedures and remedies (see page 10), and along with them, here are the editor's opinions as to some of the newer ideas, procedures, and remedies that seem to offer possibilities of wide implications and clinical usefulness.

In the long view, perhaps the definite alteration in the official attitude of the American Medical Association, in regard to hospitalization insurance and the purchase of medical service by groups of persons, on the mutual insurance plan, may prove to be one of the most important developments of the past year.

Another occurrence of great possible significance was the opening of the Squibb Research Institute, where important scientific studies will be carried out, by trained workers, entirely free from domination by commercial interests, and also from the rather dictatorial and reactionary atmosphere that seems to pervade some, at least, of our academic research institutions.

The legalization of the dissemination of contraceptive information and supplies by medical men, which was accomplished in 1937, will certainly have an enormous effect on human life and health in years to come, and physicians should be making full use of their new privileges in this connection.

From the standpoint of practical therapeutics, *sulfanilamide* seems to overshadow all the other medicaments which have appeared at all recently. Its field of usefulness has widened considerably, and we have probably not reached the end of it; while the indications, methods, and dangers in its use are becoming more clarified.

The steady increase in the use of *insulin, in conditions other than diabetes*, appears to us to be highly significant for the future, especially as it is in line with the ideas of J. E. R. McDonagh, who is one of the profoundest thinkers of our time, and is probably a generation ahead of the clinicians.

The introduction of a simple and apparently reliable *test for the presence of active tuberculosis (Tebigen)*, which, since it contains no tubercle bacilli, is free from the

dangers inherent in the tuberculins, should be a long step forward in practical phthisiology.

A new and simple test for the *determination of pregnancy (Pregnacol)*, while by no means soundly established, as yet, offers encouraging and suggestive results in a highly important field.

Progress in the study and *typing of pneumococci* has been greatly facilitated by the introduction of the Neufeld-Sabin technic, so that the determination of which of the 32 types now recognized is present in a given case, no longer requires hours of time nor the services of an expensively equipped laboratory and highly trained technicians. Serums prepared from rabbits are now available for the diagnosis of all types and for the treatment of those types which now appear to be amenable to such therapy.

Physicians who do their own laboratory work, and diabetic patients who test their own urine frequently, will be practically interested in a new test for sugar in the urine *(Galatest)*, which is performed with dry reagents and very small quantities of urine, and which seems to give reasonably accurate *quantitative* results, within limits.

The discovery of the antipellagric properties of *nicotinic acid* should prove decidedly important, especially in the South, where this deficiency disease is widely prevalent.

In *surgery*, perhaps the most widely important new idea is the use of large-caliber glass drainage tubes ("Lamp-chimney drains") in the prevention and treatment of *peritonitis* (see *Surg. Clinics of No. Am.*, Dec. 1938, page 1599; and page 26 in this issue of CLIN MED. & SURG.).

Deflation of the bowel, in cases of obstruction, by means of the ten-foot, double-lumen *Miller tube*, offers excellent life-saving possibilities in a type of cases that has caused much anxiety to physicians, and many deaths (see page 43).

It is quite probable that some matters of large importance have been overlooked by the contributors to our "Progress Symposium" and in these editorial comments; moreover, several new drugs are about to be offered commercially, but have not been mentioned, because they are not yet available, but those who will follow up the suggestions here made, will probably skim the cream of the most significant advances made in Medicine in 1938.

The Index

NEWSPAPERS and most of the other current periodicals, which we throw away as soon as we have read them, and novels, which we rarely read more than once and to which we practically never refer, do not need indexes; but for technical books and magazines, to some of which we turn daily for specific information on some particular subject, an index is absolutely *essential*, and, if it is to serve its purpose adequately, it must be a *good* index.

In the December, 1938, issue no doubt you found the Index to the volume of CLINICAL MEDICINE AND SURGERY for 1938, and a few words as to the making and use of it may prove interesting and helpful.

To be truly serviceable, the index to any volume must enable the student to locate every item of information it contains with a minimum expenditure of time and effort. This condition does not just *happen*, but requires close and constant attention by people who are *trained* in this work.

No matter how capable and eminent a *clinician* a physician may be, he never, in deciding upon the titles of articles he may write, gives a thought to the index, unless he has written books and *prepared the indexes for them*, has had editorial experience, or has been a prolific writer and wide student of medical articles. For this reason, many of the most valuable articles published would be lost, for reference purposes, if a trained editor did not change the title in such a manner that it can readily be located in the index. For example, a medical man, who possesses little or no literary training, may have worked out a highly valuable method for the management of some disease, and in reporting it, because it is the result of his own efforts, may give it the title, "Personal Experiences." It is obvious that no one, in consulting the index, would ever find his worthwhile contribution.

Another recent, though less glaring, example was found in an article giving an excellent discussion of the modern methods of relieving ileus in cases of peritonitis, which would have been practically lost in the index under its original title, "Causes of Death in Appendicitis." This article was retitled, "Treatment of Ileus in Peritonitis," and will appear in the index under two headings: "Ileus, Treatment of in Peritonitis;" and, "Peritonitis, Treatment of

Ileus in." Thus the man who is interested in either ileus or peritonitis will find the article readily, though he might never have located it under the heading of *appendicitis*.

A good index results when the editor of a periodical, constantly keeping the index in mind, watches the title of every article, abstract, and other material published, and changes it, when and as necessary, so that it will be a ready clue to the actual contents of the article.

Then the people who actually *make* the index must be trained in that work, so that they can intelligently separate the various components of a title and index it under every heading which might lead the student to it.

The making of the annual index of a periodical proceeds throughout the entire year. As each issue appears, a *separate card* is made out for *every item* that is to appear in the index, and these are filed alphabetically. At the end of the year, these cards are gone over carefully, rearranged where this is necessary, and additional cross references made, if it appears that these would be helpful to the readers. The entries on the cards are then copied on sheets, in strict alphabetical order, with directions as to the styles of type to be used, indentations, etc., and sent to the printer. When proofs are received, these must be checked with the cards and sheets with meticulous accuracy, so that the searcher for information may not be led astray.

It is obvious, therefore, that the making of a good index is a highly specialized and costly piece of work, and is valuable to the student in proportion to the thought and attention expended upon it.

In order that the money and effort put into the index may not be wasted, every physician who receives this Journal should keep and file every copy, especially the index number, so that he can have every helpful suggestion it has contained at his disposal permanently, in case of need.

Of course, bound volumes are more sightly on the library shelves and easier to refer to (if no bookbinder is handy, we offer our readers a binding service, at a cost of about $3 a volume, plus transportation charges both ways), but this is not *necessary*. On the backbone of each issue are printed the numbers of the pages it contains, so that reference is easy. If this plan is to be followed, it is well to fasten a strip of gummed cellophane paper over the backbone of each issue, as it arrives, so that it will not become broken or defaced by use.

Think of the index when giving titles to all articles you may write for publication, anywhere; keep complete files of all really and permanently *worthwhile* medical journals you receive, *if they publish an adequate index at the end of each year;* and then use the index volumes and make them pay you *regular dividends*, indefinitely.

NEXT MONTH

Dr. Henry Schmitz, of Chicago, will present a simple and highly practical discussion of the diagnosis and management of carcinoma of the breast, which should be of especial value to general practitioners.

Dr. G. Wilse Robinson, Jr., of Kansas City, Mo., offers some decidedly interesting comments on the physiology of sleep and the use of insulin as a sedative.

Dr. James W. Kennedy, of Philadelphia, will give a warning regarding the importance of proper diligence in the use of modern methods in diagnosing and treating diseases of the cervix uteri.

COMING SOON

"General Treatment in Tuberculosis," by Amos T. Fisher, M.D., Lakewood, Ohio.

"The Treatment of Abscesses in General Practice," by Ralph L. Gorrell, M.D., D.N.B., Clarion, Ia.

JANUARY

The frost sprites
Paint grasses and leaves
Upon my windows at night.
When the snow creaks and lean branches throw
Sharp blue shadows on cold white,
Moonshine interweaves
With home lights.

G.B.L.

* *Leading Articles* *

Progress in Pituitary Therapy of Alopecia*

With a 10-Year Report and Review of the Literature

Part I

By
BENGT NORMAN BENGTSON, M.D., Maywood, Ill.

IN 1931, [1,2] I reported the results of a five-year study on the apparent influence of the pituitary gland on alopecia. The hair losses treated varied from alopecia areata and alopecia totalis to one sudden *defluvium capillorum*, without attendant loss of brows, lashes, or beard. Therapy consisted of anterior lobe and whole pituitary extracts from sheep, given hypodermically in varying doses and frequencies. Tablets and powdered anterior and whole pituitary extracts were further used orally, and on one occasion thyroid was added as synergist.

Fig. 1 (Left): A case of simple alopecia prematura, with rolandic tonsure.
Fig. 2 (Right): The same patient after 26 months of anterior pituitary treatment. Note that the tonsure is filled in with black hair, and that all the hair is heavier, more wavy, and more glossy.

The results in some of these 16 patients were gratifying, and in 2 instances spectacular. The thought occurred to me, and even now, as I look back, rather justifiably so, that I had stumbled on a specific treatment, at least for alopecia areata and totalis; and further, that hypophyseal deficiency might be the reason behind all baldnesses.

In consequence, extensive plans were made to group and treat all existing types of alopecia with pituitary, and evaluate its specificity. A large clinic was established for me at the Research and Educational hospitals of the University of Illinois. Every known type of hair disturbance was placed at my disposal through the favorable effect of the tremendous publicity in the newspapers that followed publication of the preliminary article. Even the more degenerative hair disorders, such as monilethrix, piedra, and ringed hair *(pili annulati)* were included.

Fig. 3 (Left): Multiple alopecia areata simplex, superimposed on a case of alopecia prematura.
Fig. 4 (Right): The same patient after 14 months of anterior pituitary treatment. The tonsure is filled in, but not the temporal recession.

Two commercial houses† agreed to furnish, gratis, the necessary material for observation and evaluation. But subsequent results did not measure up to the splendid record of the first report: however, neither were they entirely fruitless.

Results in Various Types

Including the 1931 report and through the years,[3-4-5] 424 people were subjected

*This is the first installment of a two-part article. The second installment will appear in an early issue.

†E. R. Squibb & Co. and Eli Lilly & Co.

to prolonged and intensive pituitary therapy. Incorporated also were sub-groups[6] in which various other endocrine extracts were administered; and still another group[7] in which the melanophoric principles of the posterior pituitary were given for additional clinical comparative study.

sioned by the injections. Pityriasis sicca seemed to lessen in some cases, under this treatment, but this was not a constant finding. Acne improved, under therapy, in many so afflicted.

In *constitutional thinning of the hair*, and where various physical causes could be excluded (prolonged low-grade fevers, chronic constitutional disorders, and various systemic toxicoses), pituitary treatment was of even less value than in the prematura cases. Several developed lanugo and occasional rudimentary pigmented hairs, out of 57 cases treated, but there was not one outstanding result.

SUMMARY OF CASES TREATED WITH PITUITARY

No. Cases	Diagnosis	Results Excell.	Results Good	Results Fair	Results Poor	Results None	Lanugo Only	Occas. Pigment Hair	Comment
186	Alopecia Premat.	1	0	1	0	116	98	59	Treat. not practical.
57	Constit. Thinning	0	0	0	0	46	8	3	Treat. not practical.
78	Alopecia Areata	14	2	7	18	17	61	39	Treat. definite in selected cases.
88	Alopecia Totalis	31	6	13	9	20	54	70	Treat. positive in selected cases.
3	Monil.	0	1	0	1	1	0	0	Treat. questionable.
1	Piedra.	0	0	0	0	1	0	0	Treat. of no value.
1	Ringed Hair	0	0	0	0	1	0	0	Treat. of no value.
	PITRESSIN ADDED TO THERAPY								
11	Alopecia Totalis	2	1	1	0	6	0	1	Adjunct therapy valuable in selected cases.
18	Alopecia Areata	3	1	1	0	13	0	0	Adjunct therapy valuable in selected cases.
443		51	11	23	28	221	221	172	Totals in all types treated

Over 54,000 ampules of pituitary extracts have been used, and thousands of doses of various endocrine formulas for oral medication (anterior lobe, posterior lobe, and various combinations of the two with thyroid). Through direct personal contact, through written communication, and through literature, I now have the questions, comments, and observations of over 700 physicians from all over the world, and their results with pituitary treatment in from one to 100 cases each. Thus it has been my experience to observe well over 2,000 cases of alopecia and the influence of pituitary therapy upon them.

It is my own opinion that pituitary, as it is at the present prepared, is of no practical value in *alopecia prematura*. In a previous article[5] I reported that 41 out of 58 such patients developed lanugo, the remainder showing no response. Twenty-five (25) of these lanugo-stimulated patients developed occasional terminal pigmented hairs, but only two of those treated showed positive results. Subsequent experimentation has not shown much deviation from these notations. Lanugo can be demonstrated from pituitary injections in most cases of pattern baldness, but stimulation seldom goes beyond that. Out of a total of 186 patients with alopecia prematura, only one obtained excellent results (E. M. S., Figs. 1 and 2), and one a fair result; the remainder were negative, for all practical purposes. Increased glossiness of the hair was rather generally observed in those treated, and was probably due to direct sebaceous gland stimulation occa-

In *alopecia areata* pituitary seemed of definite but not specific value as a form of therapy. Of the 78 cases that were treated, 61 developed lanugo within 12 weeks; 17 showed no influence from treatment; 39 developed frequent pigmented hairs, and 14 of these resulted in completely re-grown patches. Upon halting therapy on these, 6 immediately broke out with new bald spots within from 6 to 20 weeks. In each instance, resumption of therapy caused the hair to regrow completely within 24 weeks. And the interesting feature of the newly regrown hair was that it was *darker* and *coarser* than the hair in the surrounding areas (see Figs. 3 and 4).

These 6 cases were watched carefully and therapy was started and stopped at regular intervals. Bald spots (the same or new areas) recurred promptly on the cessation of pituitary treatment, and hair grew in completely again when the therapy was resumed. Among the other 8 of the successfully stimulated group, 5 needed no further treatment, and the other 3 only infrequent doses, to maintain satisfactory head hair.

Of the 88 cases of *alopecia totalis*, treated either directly by me or by local physicians under my direction, 54 developed

Fig. 5 (Left): A case of Monilethrix, before treatment (Feb., 1932).
Fig. 6 (Center): Same patient after 29 months of anterior pituitary treatment (Aug., 1934). Note the appearance of freckles.
Fig. 7 (Right): Same patient, 50 months later (Nov., 1938). She is now receiving 1 cc. of anterior pituitary extract twice a month. The freckles persist.

lanugo rather promptly, and 70 finally developed some few pigmented hairs. Of these latter, 31 eventually grew top hair completely, while 7 grew eyebrows, lashes, and axillary or pubic hair only. Of these 31, however, success was not long lived in 20. Bald spots of varying size appeared, even while the patients were on active therapy. By the happy thought, however, of discontinuing medication on alternate weeks, a noticeable improvement was observed, so that 6 regrew lost hair under this regime and maintained a satisfactory head-hair status, on greatly reduced doses. The other 14 fluctuated between patchy bald areas and a rather mothy appearance that was, in several instances, as distressing as the previous complete nudity.

As in previous reports,[3,4,5] the blood pressures, in most of the patients with hypotension, increased moderately. Other objective evidences of increased endocrine tone were improvement of certain of the hypoendocrine bradycardias and atonic constipations. The usual menstrual disturbances were improved definitely in most of those so disordered. This was particularly true of those having cramps prior to the first blood show, and in those with the "regular irregularities."

Of the 3 cases of *monilethrix* treated, one seemingly showed excellent results, one slight, and the third none. By excellent results is meant a positive lessening of the hyperkeratosis and amount of moniliform hair by 50 percent, and replacement by normal hair varying from 1 to 4 inches in length in these areas. It is quite possible that the hair growth in this seemingly successful case (see Figs. 5, 6, and 7) was pure coincidence, inasmuch as the patient was a young girl of 9 years and endocrine forces far greater than ordinary hypodermic therapy may have been at work. And yet, the family history would tend to refute that suggestion. The mother, maternal grandmother, a maternal aunt, and several other maternal relatives were similarly afflicted in their childhood, and alopecia totalis invariably resulted. Moreover, the patient's brother, born 2 years ago, was also afflicted with *aplasia monilia* and is showing a slowly increasing hyperkeratosis and nudity. I have not deemed it wise to initiate any pituitary program for this child as yet, though I did give pituitary extract to the mother during pregnancy, anticipating monilethrix in the new-born child, but to no avail.

It is likely that *aplasia moniliformis* is the result of an endocrine deficiency. Strandberg, in his monograph on the subject,[5] also expresses that opinion.

I saw no beneficial results whatsoever from pituitary treatment in *piedra, pili annulati, trichorrhexis nodosum,* nor in *fragilitas crinium.*

Reasons for Failure

Reviewing the uniformly successful results obtained in my first series, I attempted to analyze why some, in later series, should fail so signally to show the least results while certain others, on the identically same program, gave the impression of almost spectacular specificity. If the therapy was always the same, was it the individual reaction that was different? Eight rather obvious facts stood out on careful scrutiny:

1.—Each patient in the first series, by coincidence (for they had been unselected), had dark brown to black eyes and had, or had had, brown to jet black hair.

Fig. 8 (Left): A case of alopecia totalis.
Fig. 9 (Center): The same patient after 9 months of pituitary treatment.
Fig. 10 (Right): The same patient after 10 additional months of treatment, with Pitressin added to the anterior pituitary extract.

2.—Those responsive to therapy in the succeeding series, with a few isolated exceptions, also were positive brunettes.

3.—The brunettes with lower blood pressures, slower pulses, lower basal metabolic rates, lower hemoglobin percentages and red cell counts, and easy exhaustability, responded with better pilary growth than did those more apparently normal.

4.—The products of different companies, used alternately, gave better results than the protracted use of one commercial product alone. (The *p*H of the Lilly ampule is 5.75, whereas Squibb's product has a *p*H of 8.3.)

5.—The addition of thyroid extract was an unquestioned synergist in many of the cases and failure would have resulted without its use. And yet thyroid alone, in these same and in other cases, even over long periods, proved of no value.

6.—Those on intermittent doses of pituitary extract responded better than those on long and continuous therapy.

7.—Those showing no benefit often had partial to complete closure of the anterior and posterior clinoid processes of the sella turcica; or sella measurements below Cushing's minimal 10x15 mm.

8.—There seemed to be variations in the stimulatory influence of different batches of anterior pituitary extract, even though these came from the same company.

In consequence of these observations and because of previous work on pigmentation,[7] I decided to take some of my failures and incorporate a more positive posterior lobe preparation (pressor principle only) into their program.

I added Pitressin to each hypodermic injection of anterior lobe extract. The treatments were given for two weeks, with a rest of two weeks. The amount of Pitressin varied with the individual. The initial dose was 1 minim; then a gradual increase, until a therapeutic effect was observed. This I gauged by what I finally came to refer to as the *blanch test*. When the patient showed pallor, a fine perspiration, trembling, and positive intestinal peristalsis, with or without desire to defecate, within five minutes after the injection, that was considered the maximal dose. Usually the optimum dose was computed at 1 minim less than the maximum. Thus a patient evidencing one or all of the preceding symptoms on 5 minims of Pitressin, would receive, as his regular injection, about 3 or 4 minims. The largest routine Pitressin injection in my experience was 6 minims three times weekly. The average in all cases has been 4 minims. There is some tendency to acquire tolerance.

The results obtained fairly well confirmed my theoretical speculations (that the brunettes had an aiding posterior lobe synergism that the blondes did not have). Five (5) out of a group of 11 previously unsuccessfully treated alopecia totalis patients, responded with from a fair to a spectacular hair response. One (B. P.), a blue-eyed Nordic, who had had butter-colored hair prior the inception of his disease and had responded indifferently to anterior pituitary extract alone, developed black hair and brown lashes and brows when Pitressin was added (see Figs 8, 9, and 10). This was so interesting that experimentation with varying doses of pituitary was tried. After months of greatly decreased doses, the color of the head hair changed to a chocolate brown; then bald spots began to appear and the surrounding hair became golden-brown. On increasing the dose of Pitressin again, a fair hair response and darker hair resulted after six months. The present maintenance dose is 3 minims of Pitressin and 1 cc. of anterior pituitary thrice weekly, two weeks out of five.

Another equally interesting response concerns a pedagogue with alopecia totalis. Through his physician, anterior pituitary treatment was started. Lanugo a moderate beard, and occasional eyelashes resulted. Progress seemed at a standstill until I recommended the addition of Pitressin. Within 12 weeks, pigmented hairs appeared among the lanugo. At the present time (one year later), this patient has jet-black hair of good quality and amount. The doses have never been decreased and the patient has never had a recessive moment, from the inception of this latter therapy. He has blue eyes and had, prior to his affliction, light brown hair.

Five (5) unsuccessfully treated cases of alopecia areata, out of 18, responded with terminal pigmented hair, 3 completely filling in all spotted areas; in the remaining 2 the result was fair or poor. One such case, very severe, in which pituitary alone had given good results, was still further improved when Pitressin was added (see Figs. 11, 12, and 13).

Results of Other Workers

The response of the profession to my request,[2] that other investigators experiment with this interesting problem of pituitary treatment in alopecia, was more than generous. As a result, the literature on the hormonal therapy of alopecia is increasing rapidly. For the most part (exceptions [9, 10, 11]), the results obtained do not differ from mine greatly. In some,[12, 13, 14] however, the results obtained greatly exceed mine, particularly in the premature alopecias.

Molitch and Poliakoff[15] report that 6 boys, out of 40 treated with anterior pituitary, showed an increase in pubic hair growth and that "one of the boys, whose scalp hair

Fig. 11: A case of severe or malignant alopecia areata.

was sparse, developed a luxuriant growth of hair."

Oteiza, Palomino, and Lopez[8] report that, with the exception of lanugo in one of their cases, "Using the method of Bengtson, in our hands, gave negative results." They experimented with one case of alopecia areata, 1 of alopecia totalis, and 3 cases of alopecia seborrhoicum.

Rogers[16] says, "Prompted by the work of Bengtson, I treated 2 cases of alopecia totalis with anterior pituitary, one with success, the other not."

Rihova[13] treated 98 alopecia prematura cases, 35 of which were advanced. He used anterior pituitary in combination with his own methods (Progynon intramuscularly, as synergist). He concludes, "There is no better therapy for alopecia prematura."

Strickler[17] says, "While we cannot share

Fig. 12 (Left): The same patient as Fig. 11, after 18 months of continuous anterior pituitary treatment.
Fig. 13 (Right): Same patient after 12 more months of treatment, with the addition of Pitressin.

Bengtson's enthusiasm, nevertheless we have observed benefit in some obstinate cases of alopecia."

Goldstien[10] treated 3 cases, 1 of alopecia totalis and 2 of alopecia prematura. The totalis patient, who has been so afflicted for 22 years and had 2 sisters with a similar complaint, showed a definite improvement. The prematures showed no response.

Kjellin and Kylin[12] treated 2 cases of alopecia totalis successfully with pituitary; one a 16-year-old boy, the other a 31-year-old woman.

Ottilio Versari[18] treated 9 cases with pituitary injections and concludes: "This therapy is better than local treatments."

White[19] treated a 73-year-old spinster, with history of alopecia totalis for 42 years. "After three months her whole scalp was covered with a fine growth of hair; after 7 months the hair was from 2½ to 3 inches long and black, and there was definite body hair. Treatments have been continued, and the head hair continues to grow in length."

Pighini[20] successfully treated 11 cases of alopecia areata and totalis with pituitary. He concludes with: "A freshly prepared emulsion of the anterior lobe of the pituitary alone heals alopecia. The treatment is further intensified with added use of thyroid or iodine."

Stanley and Hawkins,[21] interested in my preliminary report, made direct implantations of the anterior hypophyses of sheep into 14 prisoners at San Quentin. Of these, 29 percent developed a marked head-hair growth, and 21 percent developed oily scalps or showed definite increase in body hair growth.

Kohn[14] treated 8 cases of alopecia prematura, with favorable results, and concludes that pituitary therapy is definitely indicated in early baldness, and that results may be expected within 3 or 4 months of continued therapy.

Lord,[11] after a study of 19 cases, 14 of which (seborrheic alopecia in fairly ad-

vanced stages) were manifestly unsuitable for this type of treatment, reported that he found no evidence for or against anterior pituitary therapy.

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(To be continued)

Progress in Clinical Medicine

(A Symposium)

EDITORIAL NOTE: *Feeling sure that our readers would be deeply interested in the opinions of some of the leaders in Medicine, regarding the relative importance of some of the newer developments in this field, we wrote to a number of nationally known physicians and medical educators, requesting that they answer, briefly, these two questions:*

"1.—What discovery or invention, in any field, made during the past year or two, do you consider to be of the greatest actual or potential importance to clinical medicine, and why?

"2.—What do you consider the most important drug or other therapeutic measure introduced to the medical profession within the past year or two, and why?"

Here we present the answers received from five of these men, whose names are so well and widely known to physicians that they require no comment.

Walter C. Alvarez, M.D., F.A.C.P., Rochester, Minn.

Prof. of Medicine, Univ. of Minnesota

I

I THINK THE GREATEST DISCOVERY or invention which gives promise for the future of medicine is Lawrence's cyclotron, which makes possible the production of many temporarily radio-active elements. Such elements can be followed through the body with the greatest ease, so that the experimenter can say how much is excreted every day and how much is held back in the several organs of the body. Such analyses can be made even when a few milligrams of some chemical are ingested. With the help of these "tagged" molecules, a new science of biochemistry will rapidly be developed, and answers to age-old questions will soon be obtained. We will soon know the rate of turnover of the various chemicals in the body.

These new radio-active substances can be used also to administer a tremendous blow to all the organs which are forming abnormal cells in cases of leukemia, or they will seek out every single carcinomatous metastasis in the body to injure it.

The neutron rays are already being used to treat cancer in man. They are several times more destructive to cancer than are the roentgen rays.

II

The most important drug of the last year or two appears to be sulfanilamide and its close relatives. The results in many acute infections have been startling and delightful. Not only are we delighted with the results of the drug, but we are inspired with hope that similar new drugs will be found, and that a tremendous new advance in chemotherapy is on the way.

William J. Kerr, B.S., M.D., F.A.C.P., San Francisco, Calif.

Prof. of Med., Univ. of California Med. Sch.

I

I CONSIDER THE **Symballophone*** to be the invention of greatest potential importance

*See *Am. Heart J.*, Nov., 1937, p. 594.

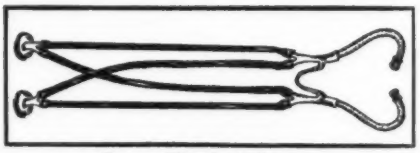

Fig. 1: The Symballophone.

to clinical medicine, announced during the past recent years.

This instrument (See Fig. 1) is a sound-comparing stethoscope with two bells or endpieces, each of which is connected directly to the corresponding earpiece by rubber tubing, and to the opposite earpiece by a tube at least 3 cm. longer and, preferably, 25 percent narrower than the direct one, as this facilitates lateralizing the sounds heard and detecting differences in pitch and intensity.

Dr. Ernest Lawrence's studies on radioactive salts are revolutionary in the field of metabolic studies.

II

Sulfanilamide is undoubtedly the most important drug recently introduced to the medical profession. Its use in treatment of streptococcic, gonococcic, and meningococcic infections has been of great value.

Andrew C. Ivy, M.S., Ph.D., M.D., F.A.C.P., Chicago, Ill.

N. S. Davis Prof. of Physiol. & Pharmacol., Northwestern Univ. Med. Sch.

I

THE SUCCESSFUL TRANSPLANTATION, by Dr. H. S. N. Greene, of cancer tissue from a woman's breast to the eyes of rabbits, is potentially a very important discovery. This is a logical development of Dr. Marke's transplantation of endometrium to the eye, which was accomplished a number of years ago.

The implications of Dr. Greene's discovery are obvious. If it does not lead to a "cancer cure," it should provide information relating to tissue immunity and cancer, tissue specifically and cancer, the nature of the specific protein in cancer, and factors which affect growth and metastases.

II

Sulfanilamide, regardless of its apparently decidedly toxic manifestations in some patients, is the outstanding drug recently introduced. The hope that is associated with the therapeutic action of sulfanilamide and related compounds should stimulate intensive research to make and try derivatives that possess less toxicity. It is upon this type of hope—the hope that we may find life-saving or curative compounds and procedures by research—that progress in medicine is based.

W. A. Newman Dorland, M.A., M.D., F.A.C.S., Chicago, Ill.

Prof. of Gynecology, Illinois Postgrad. Hosp. and Med. School

I

RIVALING THE GIANT 200-inch telescopic lens of Mt. Wilson Observatory in scientific interest and in its marvelous possibilities of microscopic discoveries, is the new super-microscope, the electron-microscope, recently constructed by two young German scientists, Drs. Ernst Ruska and Bodo von Borries. This instrument, which magnifies 100,000 times, is the first practical application of the recently discovered principle that electrons are reflected, like light, from whatever object they strike.

The microscope, in its present form, is about five feet high, and is provided with glass windows surrounding the interior, which is a vacuum. Instead of a light, it uses a beam of electrons which are produced in the top of the tube by a 100,000-volt cathode-ray tube. The object to be magnified lies within the vacuum, where the electrons can fall upon it. The reflected electrons are picked up by coils of electric wire, pass through the hollow cylinders of these coils as light passes through a lens, and are focused by the electrical field of the coils, where they form an invisible image of the object from which they are reflected. This image is converted into ordinary light by permitting the electrons to strike a flat glass plate coated with chemicals. These chemical substances fluoresce, and the fluorescent light gives the exact pattern of the object. The process is similar to that of the glass screen of a television receiver.

The electrons, which are millions of times smaller than the shortest wavelength of light, reflect with greater detail and accuracy small minuscule structures and objects which are beyond the power of light to reveal clearly.

The especial application of the electron-microscope is in medicine and biology — the study of living tissues. It is expected to reveal the viruses causing disease in human beings and in vegetable growth, which cannot be shown by the ordinary microscope. It is possible that the cause of influenza and certain non-filtrable viruses may thereby be discovered. As has been stated by authorities, this invention is "A startling confirmation of the work of Dalton, Bohr, Rutherford, Schroedinger, Franck, and the other developers of the atomic and quantum theories."

It is for these reasons that I believe the electron-microscope is the recent invention which is of the greatest actual or potential importance to clinical medicine.

II

Sulfanilamide, also known as **prontylin**, I believe is by far the most outstanding drug introduced to the medical profession within recent years. While the drug may be regarded as still in the experimental stage, the clinical results which have been obtained from its employment in the severer forms of general infection, as by the hemolytic streptococcus, the pneumococcus, the meningococcus, and the gonococcus, amply warrant further investigation in this field of clinical medicine.

Satisfactory results have also been obtained from its use in chronic ulcerative colitis (another unusually severe disease), as well as in the treatment of lymphogranuloma inguinale, the so-called fourth venereal disease. Speedy recovery from the latter grave disorder has been noted by two United States Army surgeons, Col. Guy L. Qualls and Lt. Gladen R. Hamilton. The mortality rate of pneumococcus pneumonia, treated by sulfanilamide, was only 15.7 percent, as compared with 27.5 percent under serum therapy. The possibility of toxic manifestations following the use of the drug must be noted.

It is because of the marked improvement following its use in grave septic conditions that I regard the drug as the most important one recently introduced to the profession.

William A. Pearson, Ph.C., M.D.,
Philadelphia, Pa.
Dean and Prof. of Chemistry, Hahnemann Med. Coll.

I

I BELIEVE THAT Socialized Medicine, while it may not be strictly a discovery or invention, is of the greatest actual and potential importance to clinical medicine.

Just what is Socialized Medicine, State Medicine, Health Insurance?

They have all been defined variously, but in every case a departure from the present form of medical practice is contemplated and the plan is detrimental, usually both to patient and physician.

Few things in this world are totally bad or totally good, and a poor plan may actually be ameliorated, providing a spirit of justice prevails.

The medical profession of America has done its full part in caring for the sick, and few, if any, patients have been denied medical care, irrespective of their ability to pay. Physicians have always been most generous in giving medical care to the needy, and perhaps spend half of their time in ministering to those who pay nothing.

The medical profession is justly entitled to a reasonable fee for all professional services, just as the grocer, the fuel man, and others supplying necessities are entitled to financial compensation.

In this country, blessed so generously with natural resources, no one should be hungry or without clothes or the necessities of life, which certainly includes efficient medical care. With farm products in abundance, coal, cotton, wool, steel, all waiting for a proper market, there must be some way to adjust our delicate economic system, just as we know the proper treatment for any disease.

Mary Pickford is not an authority on economics, but she has made a valuable suggestion in her book, "Why not try God?".

Perhaps civilization has advanced sufficiently for us to realize, partly, the futility of war, which has as its basis *selfishness*. May it not be possible that many of our personal and collective maladjustments are the result of personal and collective selfishness?

II

In my opinion, the most important therapeutic measure introduced to the medical profession within the past year is the publication of "The Homeopathic Pharmacopoeia of The United States, Fifth Revised Edition," which is now the legal standard for all homeopathic drugs.

There are literally thousands of splendid physicians in the United States, not graduates of homeopathic medical colleges, who appreciate the merits of homeopathy, and it is hoped that the new Homeopathic Pharmacopoeia will result in a wider understanding and a more extensive application of its teachings. Surely, a scientific system of prescribing drugs, which has proved its value continuously for over 100 years, deserves legal recognition and general application.

NEW YEAR EVERY DAY

The chief beauty about the constant supply of time is that you cannot waste it in advance. The next year, the next day, the next hour are lying ready for you, as perfect, as unspoilt, as if you had never wasted or misapplied a single moment in all your career. Which fact is very gratifying and reassuring. You can turn over a new leaf every hour if you choose. Therefore, no object is served in waiting till next week, or even until tomorrow. You may fancy that the water will be warmer next week. It won't. It will be colder.—ARNOLD BENNETT

Progress in Medical Photography*

By
RALPH P. CREER, A.R.P.S., Hines, Ill.

WHEN we stop to consider the fact that practical photography is not much more than one hundred years old, we realize that tremendous advances have been made in technic, in the quality of equipment and material, and in the finished picture. The highly specialized branch of medical or clinical photography has played a very important part in this rapid advancement. Photography, in association with biology, has grown in importance through the years, to the point where it is now almost indispensable as an aid in teaching, in the dissemination of knowledge, and in scientific investigation.

In its development, photography like many other technical and scientific fields, has shown a marked tendency toward subdivision. Today, we not only employ gross and portrait photography, but also infrared photography, photomicrography, microcinematography, color photography, and motion picture photography as well. Fortunately, specialization has not yet advanced so far as it has in medicine, and the man who makes a photograph of the left leg is still asked to make one of the right eye.

Most medical men realize that photography is playing a vitally important part in medicine and surgery. Physicians everywhere are resorting to better illustrations with increasing frequency. As the result, there has been a gradual improvement in the general standard of scientific illustrations. This is borne out by a comparison of the pictures which appeared in scientific journals and textbooks twenty-five years ago with those which are published currently.

That medical men are using photography more and more in their every-day work is evidenced by the fact that, at the 1932 Convention of the American Medical Association, the scientific exhibits numbered only 122, while at the Atlantic City meeting, in 1937, there were 254 individual exhibitors. This represents an increase of over 100 percent in five years. At the 1938 Convention of the American Medical Association, eight of the scientific exhibits had to do directly with the technic of photography and, for the first time in the history of the Association, a biologic photographer was invited to speak to the general scientific section on the subject, "The Relation of Photography to Medicine."

The commercial photographic concerns have contributed much to the advancement of clinical photography. They are ever on the alert to develop new and improved equipment and materials, which definitely aid the biologic photographer to produce photographs of a higher quality. Special mention should be made of the optical firms who are constantly improving the microscopic lenses and objectives, so that sharper, clearer photomicrographs, with greater definition, can be obtained.

Progress in motion picture photography in medicine has been particularly striking. This is due to the development of superior motion picture cameras and a better quality of photographic films, together with a better understanding of the lighting problem.

There are a great many uses for the motion picture camera in medical science, and the teaching value of these films cannot be overemphasized. How else can we record accurately the various reactions of mental patients or the changes in posture and gait of an orthopedic patient? Motion pictures of surgical operations are especially popular and, with the advent of a new color film, the photography of operations will be made even more important and more valuable to the surgeon and to the student.

There are many commercial firms, as well as teaching institutions, which maintain very complete libraries of surgical motion pictures. In some cases these films are loaned without charge, while in others there is a definite fee involved.

Infrared Photography

Research work done in clinical photography in the past year or two has involved principally the infrared end of the spectrum, and much has been written on the subject. Omitting the technical factors involved, it is important to consider the advantages of this type of photography to medicine.

The early infrared medical pictures were made to demonstrate concealed varicosities and venous dilations due to obstruction.[1] More recently, Massopust[2] demonstrated an infrared photographic study of the changing pattern of the superficial veins in a case of human pregnancy. In an article entitled "Swelling of the Arm following Radical Mammectomy," Veal[3] published

*From the Tumor Research Unit, Veterans Administration.

infrared photographs to illustrate a complete obstruction of the axillary vein from recurrent carcinoma. The marked development of the collateral veins over the shoulder and breast was brought out much more clearly with infrared technic. Rodenacker[4] suggested the significance of infrared photography of various hemangiomas and, in 1937, Ronchese[5] published a series of photographs to demonstrate the fact that "a peculiar shadow, not visible on an ordinary clinical photograph, will indicate blood spaces and point toward the diagnosis of hemangioma." In his conclusions he states, "Infrared photography is a valuable method of investigation in the diagnosis of vascular cutaneous tumors in the living, when the presence of blood is doubtful."

This raises the question as to whether or not infrared photography is of any diagnostic value. Although pictures taken with infrared plates will reveal certain details which are otherwise hidden, nevertheless there is very little evidence at the present time to prove that it has any clinical utility except for research and illustrative purposes. Merkelbach[6] states that infrared photography is "self-evidently not a decisive, but always a desirable, confirmation of a symptom to be weighed in the diagnosis."

The question of how deeply the infrared rays will penetrate the skin and human flesh naturally arises. On account of the scattering and the great amount of absorption of the rays, it is doubtful that details can be registered on the photographic plate at levels much deeper than a millimeter beneath the skin.[7] The lumpy, bluish structures immediately below the skin are especially adaptable to infrared photography.

The practical application of infrared photography to ophthalmology[8, 9] is limited to the study of eyes with opaque corneas. In such cases it is possible to penetrate the opacity and determine the condition of the pupil as to its size, position, and the presence or absence of adhesions. Kugelberg[10] photographed the fundus through a transparent medium. This author states, "It appears from the foregoing that photography of the fundus oculi in infrared light will hardly attain any significance in practical ophthalmology." However, Kugelberg comments on the academic interest in connection with the study of various kinds of pigment.

The value of infrared photography of gross specimens has been well demonstrated.[11, 12] Lungs and other organs which have lost their original contrast, due to fixation, will appear as fresh specimens, and superficial tumor nodules will be clearly outlined. Coal and dust particles, and, in some instances, tuberculosis, will also be well emphasized.

The application of infrared photography to medicine is comparatively new; however, the results have been very interesting. The possibilities of photography outside of the visible spectrum cannot be predicted.

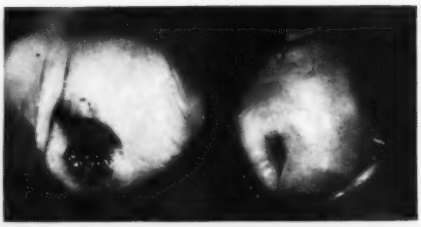

Fig. 1.—Photographs of the cervix uteri.

Photography of the Larynx

Attempts to photograph the larynx were made as early as 1860. In 1884, Dr. Thomas R. French[13] published an original communication on this subject, and illustrated his paper with excellent photographs of the vocal cords. Since then, numerous workers [14, 15, 16, 17, 18] have described various methods, many of which are much too complicated and involved for general use. There is, therefore, a real need for a simple apparatus which will make possible photography of the vocal cords with a minimum of discomfort to the patient. One of our larger institutions is working on such a problem at the present time, and it is probable that a more simplified, indirect method of photographing the larynx will be perfected in the near future.

Photography of the Cervix Uteri

Until recently, few attempts have been made to photograph the cervix uteri. This is due to the difficulty presented by the anatomic location. Obviously photographs of this part of the anatomy are necessary for records and for research purposes. In 1934, Dr. H. E. Kimball and I developed a special duck-billed speculum for this type of work.[19] The main features of this instrument are two small, low-voltage light bulbs, mounted in the proximal end of each blade. The cervix is then lighted from within the vaginal canal. This method has three distinct advantages: (1) The light is not in the way of the camera; (2) the cervix is lighted from a slight angle, and as a result the third dimension is developed (see Fig. 1); and (3) better illumination is obtained, and consequently, exposures of one-half second or less can be made.

Any camera with a long bellows extension and ground glass back can be used for this type of photography. It is also possible to use miniature cameras for this work, provided supplementary lenses, ex-

tension tubes, and special focusing attachments are used.

Bruner, *et al*[30] and Galloway[31] have modified this technic by constructing a special, cylindrical speculum with the lights incorporated within the instrument.

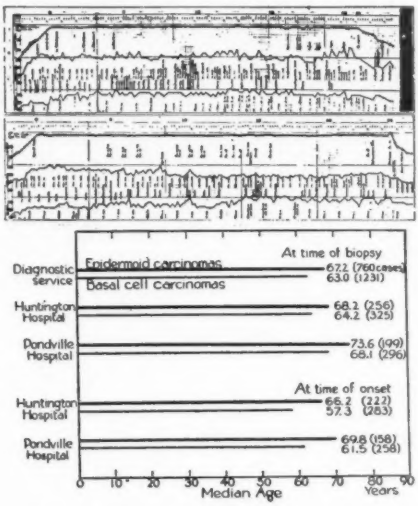

Fig. 2.-A (above): Chart contains too much data and the lettering is illegible.
B (below): Chart is simple, easy to understand, and the lettering is very clear.

Charts and Graphs

A casual inspection of charts and graphs appearing in scientific publications reveals the need for further improvement. Charts which include too much data (Fig. 2-A) are very confusing and few will take the time to analyze them. A chart should show only a few points, clearly and distinctly (Fig. 2-B). If it is necessary to include more data, the chart should be subdivided, if possible. If a group of three or four charts is mounted side by side, the cost of reproduction is only slightly increased.

Very often the printing is so small and illegible that considerable magnification offers little help to the reader. When labeling charts or graphs it is important to consider the necessary degree of reduction. If possible, it is wise to anticipate the journal in which the article is to be published, so that the size of the chart and the printing can be made in direct proportion to the page size.

Reproducing Radiographs

It is a well known fact that the minute details of an x-ray picture are very difficult to produce. This is not at all surprising when we consider that a 14x17 inch film must be photographed and reduced to approximately 4x5 inches. This photograph is then referred to the printer, where an engraving, generally smaller than the photograph, is made. In each procedure more or less of the original fine details are lost. Although certain fine markings may look perfectly clear to the naked eye on a 14x17 inch film, when viewed by transmitted light, these areas may be completely lost when they are finally reproduced as a cut in a journal. Therefore, unless the original roentgenogram has an unusual amount of contrast and detail, it is a waste of time, money, and space to have it reproduced. If there is a doubt in the author's mind as to whether or not his x-ray picture will reproduce satisfactorily, it will be well to mount, alongside of the photograph of the roentgenograms, a pen-and-ink sketch outlining the areas which the author wishes to emphasize (Fig. 3-B). Retouching the original x-ray picture is not recommended, as a general rule, because it is misleading and unscientific.

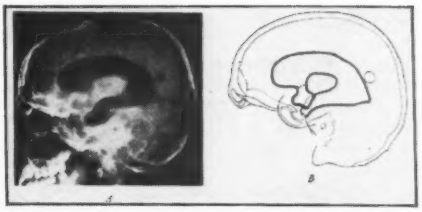

Figure 3

Color Photography

Medical subjects lend themselves particularly well to color photography.[32] The delicate color values of dermatologic conditions are made much more vivid and lifelike when they are reproduced in natural color. This is also true of gross specimens, as well as photomicrographs. This branch of photography has been advanced rapidly in the past few years, and natural-color photography is now within the reach and financial means of every advanced amateur. Nevertheless, comparatively few colored illustrations appear in scientific publications. The scarcity of such illustrations in medical periodicals is not due to the lack of progress on the part of the photographic industry, but to the high cost of reproduction. For example, the reproduction of a 4x5 inch pen-and-ink drawing will cost about three dollars; a 4x5 inch halftone photograph or drawing in black and white, five dollars; but a 4x5 inch, four-colored drawing or photograph will cost approximately 200 dollars.

Printed Illustrations

In spite of the progress which has been made in the past quarter of a century,

there is still much room for improvement. In the *Journal of the American Medical Association* for October 27, 1934, there appeared a communication of mine regarding the quality of photographic illustrations in medicine.[33] The point which was made in that letter to the editor caused so much comment that a brief summary might well be included in this paper.

For a number of years I have paid particular attention to the illustrations that appear in textbooks and various medical journals. Generally speaking, the standard

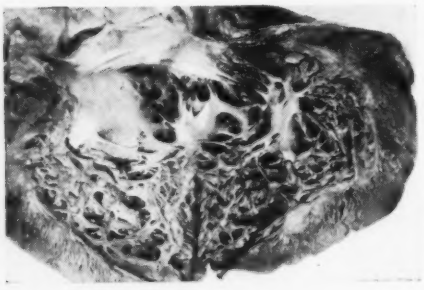

Fig. 4.-A (above): Poor example of gross specimen photography. Lesion is out of focus, lighting not properly directed, and it is improperly exposed. Impossible to identify the organ.
B (below): Good example of gross specimen photography. Notice excellent detail of heart muscles.

of such photographic illustrations in this country is low. In order to prove this point, one year's numbers of five standard medical journals were reviewed for the quality of photographs illustrating the articles. From a total of 3,600 photographs, which appeared in these journals, it was discovered that only 42 percent were good or excellent (see examples, with good pictures for contrast, Figs. 4 and 5).

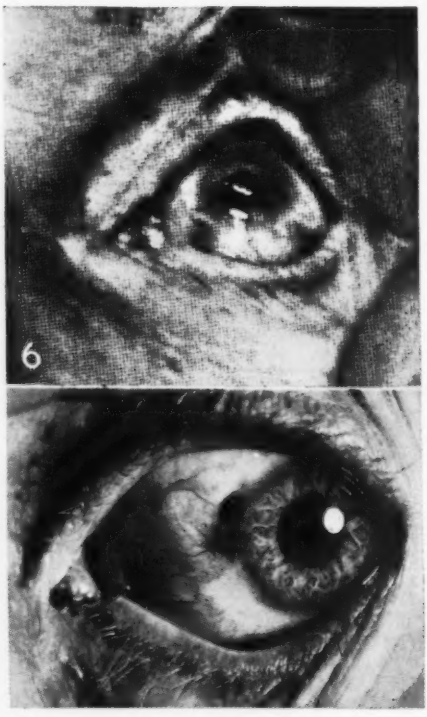

Fig. 5.-A (above): This close-up of an eye does not illustrate necessary details because it is badly blurred.
B (below): This picture of an eye illustrates a pigmented melanoma clearly and distinctly.

A letter of inquiry was sent to the editors of the journals that were reviewed, regarding their policy for the acceptance of photographic material for publication. Each reply stated that a high standard was maintained, and that poor prints were often returned and negatives requested, so that better prints may be made. Considering the special effort on the part of the editors to publish only photographs of better quality, it is rather discouraging to note that only 42 percent are satisfactory.

Why are the illustrations of a low standard? First, too many busy physicians are attempting to illustrate their own articles, without a knowledge of the principles of photography or of time to apply them. A great deal of fine photographic work is being done by the various members of the medical profession;[34] however, these men are in the minority. If medical men want to make their own illustrations, they should take time to learn at least the fundamental principles of photography. Good medical photography is not a snap proposition. It requires more than a clinical camera

outfit. A broad knowledge of photography, plus the skill to apply this information to biologic subjects, is essential.

Another reason why our medical illustrations are of such low standard is that the average physician is not sufficiently critical of the photographs which are to illustrate an article into which he has put long hours of exacting work. If a doctor has not had the opportunity to see very many medical illustrations in the course of his career, it is not likely that he is in a position to be a good critic. How is he to know a good picture from a bad one?

In many institutions it is assumed that the x-ray technician has all the qualifications of an expert clinical photographer, because he deals with light, films, and developer. Consequently he is called upon to do a specialized type of work for which he has little or no training. This is another reason for the poor quality of pictures.

From a purely technical standpoint, the standard of cuts in scientific publications can be improved considerably. Very often a good, original photograph is so badly handled in the engraving department that the original quality is completely lost. Special care is necessary in the choice of screens, type of paper, and pressmanship, otherwise much detail will be sacrificed. Compare the cuts which are found in the latest ten-cent picture magazine, and you will find that they are far superior to those which appear in some of our more costly medical journals.

Authors of scientific articles can help to improve the standard of medical photographs by giving the photographer credit for his work.[25] A medical artist generally signs his name underneath his drawings. A medical photographer receives no such recognition. If credit is given, it may be an incentive to do better work and the authors would be supplied with the highest standard of medical photographs. If a photographer knows, in advance, that his name is to be associated with his illustrations, it is only natural for him to strive for better results.

The work of the medical photographer and that of the commercial or portrait photographer are radically different. One is trained to emphasize that which the other endeavors to minimize. The average portrait man is not equipped, through training nor experience, to photograph a pathologic specimen, copy a roentgenogram, or make a photomicrograph or a surgical motion picture. To fill a needed service to the medical profession, a few commercial institutions have been founded throughout the United States. In Chicago, the recently organized Technigraphic Institute* is primarily designed and completely equipped to photograph all types of clinical subjects.

*30 North Michigan Ave., Chicago.

The Biological Photographic Association has done much to promote a better understanding between the author and illustrator, and to further the study of photography in relation to the biologic sciences. This society is purely a scientific organization, whose aim it is to disseminate knowledge and to exchange ideas and information relative to biologic photography. To this end, annual conventions are held and a quarterly journal is published. Of special interest to this group is the fact that 27 percent of the membership are physicians, and 22 percent are dentists. The Association sponsors a traveling salon, which includes examples of the very best type of medical photography. This exhibit is available to physicians who care to use it at local society meetings.

When we picture the future of clinical photography, we realize that only the surface has been scratched. The possibilities of photography in relation to medicine are only limited by the powers of one's imagination. "Coming events cast their shadows before," and it is plain to see that we are beginning a new era in medical photography. The lecturer of the future will use more lantern slides and less script. Scientific articles will contain more illustrations and less printed matter.

In an effort to condense the voluminous medical literature which the average doctor should read, a method has already been described whereby articles, monographs, etc. can be photographed on microfilms.[26, 27] It was suggested that these small rolls of film should be filed in a central library and viewed at will by means of a special projector.

In a still further effort to help the general practitioner with his reading problem, the following plan may evolve. A monthly medical digest may be published in picture form, much on the order of our popular weekly picture magazines. Such a journal would contain a brief abstract of the original article and, instead of a long detailed text, several good photographs will illustrate the main points clearly and comprehensively. If the reader is especially interested in one particular subject, he can refer to his library for the complete article.

Since a greater *quantity* of medical photographs seems inevitable, let us also strive to raise the *quality* of these pictures.

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Progress in Endocrinology

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IN CONSIDERING the progress that has been made in endocrinology during the past few years, we must ask, first, what hormonal therapy has accomplished; second, what are its possibilities, its practical difficulties, its uncertainties, and what is still to be found out about them.

The hormones have lost their original simplicity, and their field of importance has become enlarged. Indeed, Starling's definition is no longer correct, that the hormone is a substance secreted in a certain place which is transported by the blood to distant organs whose functions it excites. Furthermore, a hormone is not necessarily elaborated in one endocrine gland. It may be transmitted by the nerve paths. Excitation of the neurovegetative system seems to be due, at least partly, to the elaboration of chemical substances (sympathin, acetylcholine, histamine), which behave like true hormones.

While we know that the hormones influence each other mutually; that they regulate and are regulated by the nervous system; that the neuro-endocrine complex determines the functioning of vegetative life, including even psychic processes, it is actually difficult to apply to practical therapeutics all the biologic ideas concerning the multiplicity of the hormones, their interactions, and their neurohormonal correlations.

We must first consider the various hormones and their different modes of action, starting with the *pharmacodynamic effects* exerted by such substances as adrenalin (epinephrin), acetylcholine (which has been called a parasympathomimetic hormone, acting upon certain vascular spasms), and the postpituitary hormone (Pituitrin).

A second group of therapeutic possibilities concerns the hormones used for *substitutive medication*. Among these are, especially, insulin, the antianemic hormone of gastro-hepatic origin, and the corticoadrenal hormone, which are indispensable in the successful treatment of diabetes, pernicious anemia, and Addison's disease, respectively. These hormones have a purely substitutive effect. When their administration is suspended, the disease manifestations reappear. As yet it has not been possible to overcome the functional disturbances due to organic deficiency without continued substitutive therapy. This same type of substitutive action is obtained with folliculin, in cases of absent or deficient ovarian secretion, and also with postpituitary hormone for the correction of polyuria and diabetes insipidus.

A third group of therapeutic acquirements is found in the *sex hormones*. Folliculin stimulates the function of the ovaries. Indeed, it may produce uterine hemorrhage showing the characteristics of menstruation in women who have been subjected to ovariectomy. Lutein, the other ovarian hormone, can arrest bleeding from the uterus, even if it has persisted for weeks or months.

The male hormone, androsterone or testosterone, is able to overcome physical retardation in boys and to encourage the development of the genital organs and hair, increasing growth and rendering their figures more masculine. This same hormone can cause proliferation of the mammary gland to retrogress and, further, can overcome prostatic hypertrophy, at least in a certain number of cases.

Clinical Difficulties

It is to be noted that, in practice, very serious difficulties arise in the field of hormone therapy. First of all, it is indispensable to establish *definite therapeutic indications*, making sure whether or not functional disturbances are due to an endocrine upset, and if so, whether it is deficiency or excess, or is qualitatively wrong. For example, in the hormonal treatment of amenorrhea, it is a surprising and disturbing fact that folliculin sometimes is successful, sometimes fails to benefit the patient, and sometimes may even aggravate her condition. Thus it appears that some amenorrheas are due to insufficient production of folliculin, while in others there is an excess of that hormone, so that the patient is made worse by it. In these latter cases, lutein will be of benefit. Finally, deficiency or excess of folliculin production may not be primary, but secondary, due to pituitary deficiency, and then pituitary therapy is called for.

Another difficulty arises in connection with the dosage. Inasmuch as the products of the commercial laboratories are "extremely active," care is required in giving them. Moreover, the doses mentioned by different authors are based on their favorite preparations, which may differ one from another in potency. Finally, the stability of an individual folliculin may vary; and there remains the unknown factor of the individual reaction of the patient.

If sometimes hormone treatment must be intensive, the dose varying with the gravity of the trouble, there are other cases in which excessive amounts are not without danger. In cases of marked endocrine deficiency, it is quite safe to inject considerable doses, even larger than those prescribed habitually. For instance, if diabetic coma is to be corrected, the ordinary dose of from 200 to 300 units of insulin is often insufficient, and twice, three times, and even four times that quantity may be necessary. Some cases of coma terminate fatally because insufficient amounts of insulin have been administered. The same is true for some cases of pernicious anemia, in which recovery is very slow or incomplete because the antianemic hormone has been given in insufficient amounts. In these cases examinations of the urine or blood must guide the physician.

In administering the gonadal hormones, excessive doses may cause a disturbance. Here the endocrine interactions enter into the problem. Repeated injections of folliculin may upset follicular maturation by inhibiting the functioning ability of the ovaries, which are stimulated by small doses and inhibited by large doses of folliculin. On the other hand, the pituitary-ovarian synergism indicates that small doses of folliculin stimulate pituitary function, while large doses restrain antepituitary functioning, and thus indirectly slow up ovarian activity.

Certain hormones, when administered in unduly large doses or for overlong periods of time, may give rise to antagonistic effects having important repercussions. Both in moderate therapy and following excessive doses, the organisms may respond by mobilizing defensive provisions, which consist of substances with an opposite action, and here we may encounter new disturbances. The occurrence of such antibodies (antihormones of Collip) has been demonstrated.

The possible dangers of hormone therapy have been elucidated by E. Cantilo. A hormone, injected in quantities corresponding to those which the homologous gland supplies normally, very naturally quiets this homologous gland, or at least slows down its activity; but if a purely substitutive amount of this hormone is exceeded, the homologous gland of the patient may be blocked through the action of the injected hormone. "Every hormone, on being introduced into the organism in sufficient quantity to act as a substitute, will provoke, as soon as the amount of substitution is exceeded, certain antagonistic manifestations in the endocrine system" (Cantilo). These effects of inhibition or antagonisms are to be feared, especially when endocrine preparations are used which are much more active than the whole-gland extracts.

Still another point should arouse the attention of the practitioner; namely, the discovery that stearins are a part of the constitution of these hormones is of capital importance. All gonad hormones that are known (folliculin, lutein, testosterone) have a molecular structure comparable with

that of the sterols, and these are known to present an impressive analogy, chemically, with the cancerigenic derivatives of tar. Folliculin, when given in large doses to mice, acts as a cancerigenic agent. Although our knowledge does not yet extend to other species, the question may arise whether, under certain conditions, we do not risk the production of cancer in trying to overcome functional endocrine disturbances with the aid of these hormones.

To say the least, these hormones must be managed prudently, avoiding excessive doses or unduly prolonged administration in all patients, especially in those in whom there seems to be a hereditary predisposition to malignant disease.

These various considerations suffice to show the complexity (in some cases) of practical hormone therapy. As a matter of fact, we still lack exact clinical and biologic tests which are convenient and easy to interpret, and with which we might establish the indications, as well as the dosage. Insufficient doses of hormones may cause failure, while excessive doses are risky and may provoke antagonistic reactions that may even be responsible for unpleasant upsets in other organs.

Single Hormones and Whole Glands

It is an open question whether the use of active principles, which are preferred to whole-gland substances by many physicians, is always proper. In the employment of hormones we meet the same problem that we encountered years ago with respect to the alkaloids. At present it is possible, at least in some cases, to ignore their natural sources and to prepare them synthetically, and thus produce pure products, well standardized, carefully dosed, and always uniform. It is natural to prefer these products to those extracts of the whole glands which show variable activity because of the differences in the amounts of active principles present.

However, if these desiderata are realized in a number of hormones, such as adrenalin, thyroxin, folliculin, androsterone, and perhaps even cortin, they are not yet attained in the case of insulin, the antianemic hormone, the postpituitary hormone, and parathormone, which are frequently simply extracts obtained from their respective glands by means of various solvents and which show a wide chemical synthesis.

Furthermore, just as the alkaloid does not always possess all the characteristics of the plant from which it is obtained, so the hormone does not always contain all the qualities of the gland from which it was originally isolated. Quinine is not cinchona, any more than morphine is opium; thyroxin is not thyroid extract; nor is epinephrin the adrenal extract. Just as it has not been demonstrated that morphine, as such, exists in gum opium (since the product may possibly be the result of manipulation of the plant), so no proof exists that there is a complete identity between the synthetic crystalline hormone and the natural hormone which is manufactured by the endocrine gland itself.

However that may be, experience has shown that it is not always an advantage to prefer pure hormone therapy to opotherapy. Thyroxin is a very active hormone and its physiologic action is comparable with that of thyroid extract, inasmuch as, like it, it stimulates metabolism and thermogenesis and accelerates the metamorphosis of tadpoles. However, its influence upon myxedema is often less certain and less regular than that of a corresponding amount of thyroid substance.

If hormone therapy is not true opotherapy, it does not follow that it is always inferior. In diabetes mellitus, insulin alone can reestablish, at least temporarily, the glycoregulation, while whole pancreatic extract is almost without effect. At the present, hormone therapy and opotherapy still maintain their respective rights, indications, and advantages; and also their inconveniences.

Clinical and Laboratory Findings

Much is known about the pharmacodynamic action of hormones, as applied in a large number of clinical conditions; also their powerful substitutive effect and stimulating action, both of which may be used in cases of deficiency or need. Still, it would be hazardous to apply experimental data to clinical conditions without reservation.

First of all, there is the multiplicity of hormones. It is known that destruction of the pituitary will arrest growth in the young animal and cause progressive emaciation in the adult animal, involving atrophy of all other endocrine glands (thyroid, gonads, parathyroids, adrenals, etc.), also important disturbances in the metabolism of the glucides. These experiences have led to the production, starting with the anterior pituitary lobe, of a series of hormone products which, on injection into the animal, produce physiologic effects that exactly counteract the pathologic disturbances following hypophysectomy. So we have the growth hormone (Evans); the gonadotropic hormone (Aschheim and Zondek); the thyroid-stimulating hormone (Aron); the anti-insular hormone (Lucke); without mentioning others which are less well studied; and these, acting mostly upon the vegetative functions, regulate the various metabolisms (water, mineral, protein, fat), stimulating the whole endocrine mechanism. Thus the hypophysis appears as

the regulator of the whole endocrine apparatus.

Are all these "stimulins," which are recognized by physiologists, actually hormones? Is it proper, in the absence of chemical criteria, to confer the character of hormones upon extracts, more or less purified, that are obtained from the hypophysis? Do these multiple actions, attributed to the anterior lobe, derive from so many differentiated hormones, or only from a single principle which is capable of multiple actions? The question may be asked if it is considered that these stimulating principles do not act in hypophysectomized animals, and that, therefore, they act through the intermediation of the pituitary gland. However that may be, aside from the gonadotropic substances, none of these different principles attributed to the antepituitary has been utilized in therapeutics.

It may arouse astonishment that pituitary hormone therapy employs substances of urinary extraction. It is known that the industry removes the prolans, which are looked upon as antepituitary hormones, influencing the sexual sphere, not only from the pituitary gland itself, but also from the urine of pregnant women or animals, and that the majority of commercial products offered under the name of "pituitary extracts" are nothing but prolans eliminated through the natural passages. They are titrated according to their content of gonadotropic units, and the question is never raised as to whether they carry other hormones. If it is a question of treating a clinical case of antepituitary insufficiency, such as Simmonds' disease, it would be important, nevertheless, to employ exclusively actual antepituitary extracts, which carry the totality of the hormones produced by the anterior lobe and are capable of acting upon growth, the gonads, the thyroid, the adrenals, and the carbohydrate metabolism itself. In this particular case, it is *organotherapy*, and not hormone therapy, that is the rational method.

Summary

By way of summary, it may be said that the problem of practical hormone therapy appears to be complex and difficult because we can hardly recognize other than marked hormonal deficiencies. The slight deficiencies, the intermediate states between physiologic and pathologic conditions, as yet escape our diagnostic acumen, as a rule. We do not yet have methods that are sufficiently precise to inform us of the glandular equilibrium of our patients, or to estimate, in a given case, the endocrine deficit; and hence arise our hesitation and trials, when it is a question of prescribing a suitable hormonal treatment in exact and non-injurious doses.

Physicians have been overtaken by chemists and physiologists, and find it difficult to follow them. We are far from knowing, as yet, all the regulatory mechanisms which are active in the functioning of the endocrine system. We know very well that there exist hormonal interactions, neurohormonal and hormono-neural interferences, but these ideas are far removed from being quite objective, and they are difficult to translate into actual practice.

What are the conditions in which the hormones exercise their best effects in the organism? From what we know of the physiology of the female sex hormones, it is quite probable that the hormones are produced only at the time when they are needed, and in quantities that are suitable to the requirements of the moment.

How does the hormone act upon a deficient gland after its introduction into the organism? Is it utilized directly, or is it worked over by this gland before being sent out into the organism?

What is the ability of the gland to respond to hormonal stimulation?

There are many unknown quantities in the actual state of our knowledge, and yet we cannot fail to appreciate the importance of a study directed at all these problems, in order to give to hormonal therapy the amplitude that it merits.

PERSONAL ASCENDENCY

The five characteristics of personal ascendency are: Confidence, aim, a strong will, creative imagination, and optimism.

Confidence is both faith and hope—a dominating belief in the future. Aim is the natural concomitant of confidence, and acts as the directing agent of the forces generated by it. The strong will and creative imagination are the brush and canvas of life, with which we paint our portraits and add them to the mystic gallery of art. Optimism is described as a state of mind resulting from the elimination of all fear.—MAX WARDALL.

Notes from the International Postgraduate Medical Assembly

Reported by

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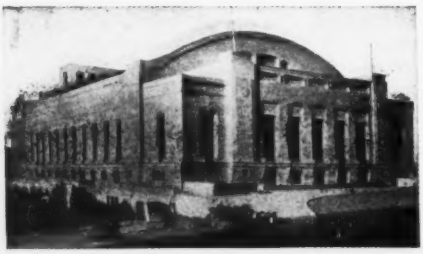
PHILADELPHIA is becoming a popular place for large medical meetings, partly, perhaps, because it has a commodious and well-arranged auditorium, and partly because it offers a wealth of clinical material. This autumn, in addition, the weather was perfect.



Philadelphia Municipal Auditorium

The International Postgraduate Medical Assembly was held there, early in November, and while the attendance was not so large as it has sometimes been (about 3,500), the high standard of the instruction given, by exhibits, demonstrations, dry clinics, and lectures, was well maintained.

As is coming to be usual, a number of commercial, as well as the scientific exhibitors, showed highly instructive motion pictures at short intervals. There was not a minute, from eight o'clock in the morning until eleven at night, when there was not something going on from which the sincere physician could gain profitable information.

Scientific Exhibits

At this meeting, 104 physicians and groups presented scientific exhibits, all of which were of interest and value, even to those who had seen the same or similar material before, for we all learn best by repetition of instruction.

Among the actually or relatively new matters, of the most general interest, which were brought to the attention of the fortunate ones who were present, perhaps the one of widest application was that shown by Dr. Bernhard Steinberg, of Toledo, Ohio, regarding the prevention and treatment of **peritonitis** by the local application of a highly virulent culture of *Escherichia coli*, slowly killed by long exposure to a low concentration of formaldehyde and suspended in a gel containing gum tragacanth and aleuronat (purified wheat gluten). The results of the use of this preparation, which is marketed commercially under the name of "Coli-bactragen," have been decidedly encouraging. It acts, nonspecifically, by mobilizing a large number of active phagocytes, which rapidly take up all organisms present, except the tubercle bacillus.

Of especial interest to internists and general clinicians was the presentation of a new *anti-convulsive* drug (sodium diphenyl hydrantoinate—known commercially as "Dilantin"), which is not a hypnotic nor analgesic. The sponsors of this drug are Drs. H. H. Merritt and T. J. Putnam, of Howard Medical School, who have reported* upon the results of its use in 300 cases of recurrent convulsive seizures (grand and petit mal and psychic equivalent types of **epilepsy**), which had not been helped by bromides or phenobarbital. In 162 of these cases (54%), the patients were entirely relieved, and in 108 cases (36%) they were greatly improved.

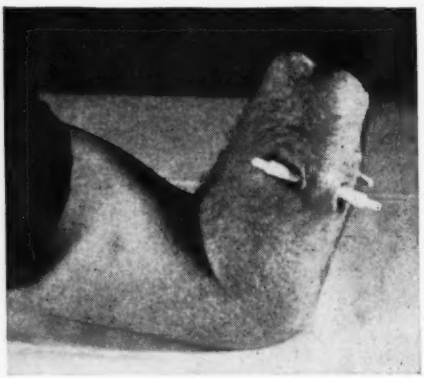


Fig. 1:—Forearm stump, showing pegs in place in the skin-lined canals.

Dilantin is, however, more toxic than phenobarbital and should be reserved for use in those cases which are not relieved by the latter drug, and then given under the close supervision of the physician.

The surgeons were especially interested, as far as the newest presentations were

*J.A.M.A., Sept. 17, 1938, p. 1068.

concerned, in those by Dr. J. O. Bower, J. C. Burns, and H. A. K. Mengle, of Temple University, Philadelphia, and by Dr. Henry H. Kessler, of Newark, N.J.

The former of these (an extensive and detailed exhibit, occupying three booths) was a conclusive demonstration, sustained by many animal and human specimens, that very fine (No. 5-0) chromic catgut gives much more satisfactory results in gastro-intestinal operations than does the No. 0 size, which is commonly used.

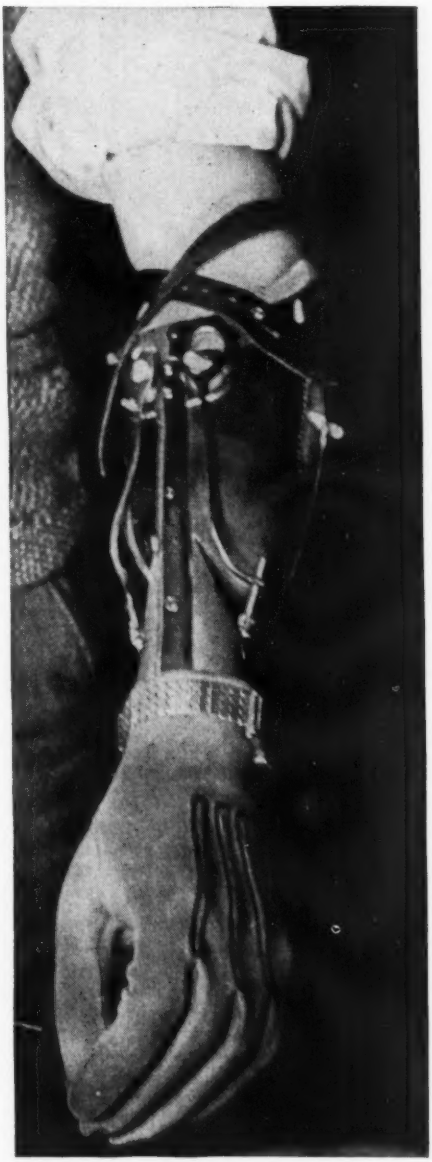


Fig. 2:—Forearm prosthesis in place, showing the method of attaching the operating mechanism to the pegs.

Fig. 3:—Showing a patient with a complete arm prosthesis playing the violin. The attachments to the pegs can be seen just below and to the left of the axilla.

The latter was a presentation of **cineplastic amputation,** whereby, using a fairly simple but painstaking operation,† the remaining muscles in an amputation stump are used to activate the prosthesis. By means of ivory pegs, passed through skin-lined canals in the muscles (Fig. 1) and attached to levers operating the artificial hand mechanism (Fig. 2), the physiologic actions of the stump muscles are restored (Fig. 3).

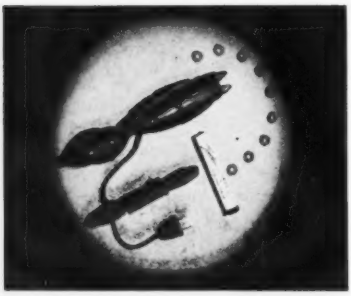
Commercial Exhibit

Perhaps the most important new apparatus exhibited at this meeting was the E. & J. combination resuscitator and inhalator, a **breathing machine** for use in asphyxia from any cause (complete respiratory failure, where it can take the place of the "iron lung" for indefinite periods; surgical or anesthetic shock; in the newborn; etc.), which automatically adjusts itself, in rate and volume, to the capacity of the patient's lungs, giving a signal if obstruction is present or develops; and which, by the turn of a valve switch, can be converted into an inhalator for administering oxygen, with or without carbon dioxide. This apparatus appears to be more nearly foolproof than anything of the kind I have seen previously.

Of less vital importance, but much wider clinical application, was *Torvic*—an apparatus for delivering into the respiratory tract medicinal substances (iodine,

†See *Southern Surgeon*, Aug., 1938, p. 285.

camphor, menthol, thymol, boric acid, and cubeb), volatilized by electrically produced and controlled heat. A ring of compressed kaolin, impregnated with the volatile substances, is dropped into the vaporizing chamber of the apparatus; the connecting



Courtesy, Torvic Labs., Inc.

Torvic Electric Volatilizer

cord is plugged into the house circuit; a pressure switch on the side of the spindle-shaped body is held down until vapors begin to appear at the nasal applicator tips (from 30 to 60 seconds); and these vapors are then deeply inhaled through the patient's nose or mouth, with the assistance of gentle, rhythmic pressures on the rubber bulb at the bottom. The claims of the manufacturers are backed up by sound, scientific research, and clinical reports, by specialists and general clinicians, indicate that this method is of decided value in acute respiratory disorders and in some chronic cases. Any special formula desired by the physician, providing it is readily volatilized by heat, can be embodied in the kaolin rings. Further research is in progress, to determine just what drugs can be employed successfully in this manner.

Here is a relatively inexpensive device which should add to any general practitioner's success and income, or may be prescribed for home use by the patient, under direction, in the intervals between office treatments.

Hospitals, clinics, and busy private offices where much treatment is given parenterally (and that means practically all such, in these days), are constantly facing the problem of a cleanly sharp needle for every patient, and will welcome the power-driven needle sharpener shown by the American Hospital Supply Co. This electrically-operated gadget is readily adjustable to needles of any size and will produce a sharp, smooth, hollow-ground point, long or short bevel, with a minimum expenditure of time and effort.

Among the new medicaments shown, one of the most striking was scientifically prepared and standardized *bee venom* (under the name of "Ven-Apis"), for use in the treatment of rheumatism and arthritis, offered by the R. J. Strassenburgh Co. This substance, in regard to which a considerable literature is accumulating, may be given by intracutaneous injection or by inunction. Decidedly favorable results have been reported.

The Ciba people introduced a new mercurial diuretic ("Esidrone") for intravenous (or deep intramuscular, if necessary) injection in cases of cardiac edema, dropsy, or ascites due to cardiac failure or liver cirrhosis. Reports indicate that it is highly effective and less toxic than similar products in general use.

The Gilliland Laboratories are offering, in addition to the standard **antipneumococcus serums**, Types I and II, prepared from the horse, diagnostic *rabbit serums*, for use in typing by the Neufeld-Sabin technic, for all types, from I to XXXII, inclusive, alone or in properly arranged combinations. They also furnish type-specific rabbit serums for therapeutic use in Types I, II, V, VII, VIII, and XIV, and for other types on special request.

Several new chemical contraceptives appeared, notably a jelly ("Almol"), with an impressive scientific background and a new formula, put out by the Calco Chemical Co., and another, "Femiceptin Jelly," by Fem Products Co., with the sound backing of Reed and Carnrick.

Several preparations of *thiamin chloride* (synthetic vitamin B_1) were in evidence, but John Wyeth's "Bewon Elixir" attracted the most attention, because the drug, dissolved in high-grade sherry wine, is so nearly tasteless that the palatibility of the menstruum is not noticeably affected.

To the best of my knowledge, the Abbott Laboratories are the first of the top-class pharmaceutical houses to offer a complete line of intravenous solutions, ready for immediate use, with all the necessary paraphernalia for their employment ready-sterilized, so that all the physician has to do is to couple them up, insert the needle, and let the solution flow.

Here follow abstracts of a number of the lectures and clinics which impressed me as possessing the widest field of interest and the highest degree of practical, clinical applicability.*

*All of the material presented at this Assembly will appear shortly in the 1938 volume of the "Proceedings of the I.P.M.A."

COMPLICATED COLLES' FRACTURES

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COLLES' FRACTURES rather often go bad. Here are a few suggestions as to how we may prevent and relieve such conditions; and this is *important*, because an unsatisfactory reduction of such a fracture, which most people consider a relatively simple condition, produces many badly disgruntled patients, and even malpractice suits, because the poor result is so obvious.

If the fracture is transverse, the muscles will tend to hold the fragments in place and the treatment is relatively easy. If it is oblique, the difficulties increase.

If the fracture is comminuted on the dorsum, and the pieces are few, put it up with the wrist in flexion. If there are many pieces, no splints will hold them in position, and wires must be put in and encased in plaster. Wire through the radius and the metacarpals, and put on the cast (a short one, to permit early motion) while making manual traction on the hand. The wires are to be incorporated in the cast, to hold them firmly. Do *not* use this method as a routine, but only as a last resort, where failure seems probable after *careful study* of x-ray films made in two or more directions. If the best results are to be obtained it must, however, be done *early*.

Rotation at the wrist depends upon *both* joints, and the bottom one is injured in Colles' fracture. If the ulnar head interferes with rotation, *remove it, leaving* the styloid process with the muscles attached to it. This will generally produce a good *functional* result, but the *cosmetic* result is apt to be poor in about four cases out of five.

If the fracture has healed with a sharp backward position of the upper fragment, *cut off the projecting point*. This is a relatively minor operation.

In *all* fractures, but especially in Colles', we must never be satisfied with a mere diagnosis of *fracture*. By means of anatomic knowledge, *careful* manual palpation (where this is permissible), and as many fluoroscopic examinations and roentgenograms as may be necessary, we must, as early as possible, *learn all the details* of the conditions present, and then *plan all the details* of the technics of reduction and fixation; how long the lesion must be protected; how much motion may be permitted; and all other pertinent matters, *before the definitive treatment is begun*.

We must always remember that there may be more than one fracture, or that there may be a complicating dislocation or other injury, and so on; and we must *never be satisfied with discovering the obvious*.

HEMATURIA

By William F. Braasch, B.Sc., M.D., F.A.C.S., Rochester, Minn.

TODAY, because of the active cancer campaign which has been in progress for several years, patients with hematuria are seen much earlier than formerly.

This symptom is frequently caused by benign lesions. In 798 cases, only 33 percent were due to malignant neoplasms, while stone in the urinary tract was the cause in 15 percent, tuberculosis in 11 percent, and prostatism and essential hematuria accounted for considerable numbers. Acute cystitis is often accompanied by blood in the urine, which is also the *earliest* sign in stone.

If blood issues from the urinary meatus only during micturition, the lesion is in the urinary tract itself; if independently of micturition, it is probably in the prostate, seminal vesicles, or other extraurinary organs; if the bleeding continues for several weeks, without other signs or symptoms of trouble, it is probably due to essential hematuria.

Gross bleeding frequently occurs in benign prostatic enlargement; *less often* in carcinoma of the prostate. If either of these conditions is found, we must not forget that there may *also* be a *renal* lesion, which we must not overlook.

In most cases, hematuria lasts only a day or two at a time, so, unless the patient is sufficiently intelligent and informed that he calls upon a physician at the first sign of blood, he is not bleeding when first seen.

Essential hematuria (sometimes called "renal epistaxis") starts in the renal capillaries. The treatment consists of the introduction of a 2-percent solution of silver nitrate into the renal pelvis, through a catheter, and the injection of whole blood or snake venom or both.

If *postoperative hematuria* is due to anatomic causes, send the patient back to the urologist. If it is of infectious origin, try sulfanilamide or methylene blue.

Cases of *microhematuria* (red blood cells in the urine, but no obvious blood) must be carefully investigated. The lesion may be due to prostatitis, stone, a bladder or renal tumor, or to infection, which last-named is a common cause. In about 30 percent of the cases, no lesion can be found, even after careful study. *Cystoscopy* is the best diagnostic method, but a diagnosis can often be made without it. *All* cases should have *intravenous urography*, but experience is required to interpret the urograms correctly. In many cases a *cysto-*

gram, either retrograde or excretory (intravenous) is helpful.

CHRONIC RIGHT ABDOMINAL PAIN

By Peter T. Bohan, M.D., F.A.C.P., Kansas City, Mo.

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A WOMAN CAME TO ME complaining of pain in the lower right abdominal quadrant; diarrhea (3 or 4 stools a day), with mucus in the stools; and chronic fatigue.

The pain in the side had been present for several months before the diarrhea appeared and came on gradually, with no acute *attack*, over a period of weeks. At the time I saw her it had been almost constant for two-thirds of every day for seven years, and was worse when she was overtired. She had also had backache (worse when stooping), more or less, for twenty years.

This patient had consulted 30 or 35 physicians (a number of whom were specialists), all of whom had examined her with the abdomen relaxed, and about twenty of whom had made a diagnosis of "chronic appendicitis" and advised an operation. A few had called the condition "mucous colitis." She had been on a soft diet for years.

She consulted me one year ago, and the first thing I did was to take her history, *which required three hours!* I then examined her *with her abdominal muscles rigid;* pinched the skin here and there; injected a few cubic centimeters of procaine solution; and gave her some advice and a back brace.

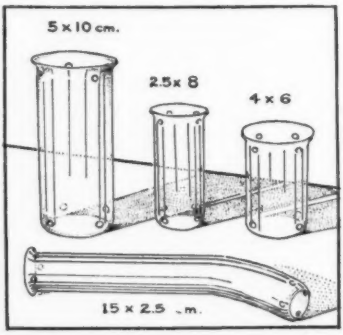
I have never seen that patient since that one consultation, but she has reported to me that, from that day to this, she has been practically free from pain, and that her bowels and her general health are much better.

That woman was suffering from *lower intercostal neuralgia and a neurosis*, due to irritation of the nerves resulting from faulty posture.

McKenzie has said, "We must come to no conclusion regarding the sensitiveness of an organ which is stimulated through sensitive structures."

Internal organs, and the visceral peritoneum, *are not sensitive.* No *localized* abdominal pain is felt until or unless *parietal* peritoneum is irritated. In *colics*, the pain is *generalized*, and there is *no hyperesthesia of the skin* nor reference of the pain to the abdominal wall.

The commonest cause of chronic lower right abdominal pain is *irritation of sensory nerves in the abdominal wall.* We must think of tumors and other diseases of the spine, and of postural pressures from lordosis or scoliosis; and we must also remember that less than 20 percent of these pressure cases have *demonstrable* lesions in the spine.



Courtesy of Dr. Babcock and *Surgical Clinics of North America*, Dec., 1938.

Fig. 4:—"Lamp chimney" or large caliber tube drains of nonsoluble glass provide prolonged and adequate drainage and a means for internal exteriorization. The perforations enable anchoring of the drain with four fine wire sutures. The long tube is used for the prostatic bed. A similar tube with small perforations is used to drain the pelvis through the perineum or vagina.

In *examining* such patients, we find that there is as much or more pain when the abdominal walls are *tense* as when they are relaxed; that pinching of the skin and subcutaneous tissues demonstrates *hyperesthesia;* and that there is tenderness over the right lower ribs and the inside of the right thigh.

NEW METHODS OF ABDOMINAL DRAINAGE

By W. Wayne Babcock, M.A., M.D., LL.D., F.A.C.S., Philadelphia, Pa.

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IT IS NOT NECESSARY to drain *all parts* of the belly in peritonitis, as was done in the Victorian Era. In most or all cases, local drainage suffices.

If gauze or cigarette drains are pulled out too soon, the lymph spaces are opened and trouble, or even death, may ensue. Drains should be left in place for from seven to twelve days. It should also be remembered that some patients are allergic to rubber, iodoform, and other things that are frequently used in these cases.

In suppurative appendicitis, under the Ochsner treatment, the abscess will become localized; but, even so, there is some mortality in opening it.

In such cases, make an incision through the belly wall; insert a large glass tube or "lamp-chimney drain" (see Fig. 4); suture the lower end of it to the wall of the abscess and the upper end to the skin; watch the abscess, through the tube, for from three

to five days and, when the walling off is complete, incise it. In this way the site of operation is actually *externalized.*

These tubes may also be used in gangrenous appendicitis with peritonitis. Pass a forceps through the tube and seize the base of the appendix and meso-appendix firmly; then slip the tube down on the cecum. The forceps will hold it in place. After from three to five days, snare off the appendix with a tonsil snare and let the wound fall together.

In treating a distended gallbladder, expose the organ, insert the tube down to it, and suture the outer end to the skin. After from three to five days, open the gallbladder with a cautery. The patient will be comfortable *as soon as the tube is placed,* before opening the distended viscus.

When a section of the gut must be resected, guard the anastomosis with a glass tube and *watch it* ("externalize the inside of the belly").

A tube of this sort may well be used as a drain after a suprapubic prostatectomy.

SULFANILAMIDE

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EVERY PHYSICIAN, today, should know when and how to give sulfanilamide.

The clinical results from this drug, in various types of infection, are tabulated below (plus signs indicate good results, the degree being shown by the number of such signs):

Type of Organism	Results
Streptococcus, Group A (Human)	+ + + +
Streptococcus, Groups B & C (Animal)	+ to + +
Streptococcus, Viridans	+ —
Gonococcus	+ + + +
B. Typhosus	little
B. Welchii (gas gangrene)	+ + +
Staphylococcus and *B. Coli*	+ + +
Brucellosis	+ + +
Urinary Infections	
Strep. A	+ + +
" Viridans	+ —

In severe tissue and blood infections (as with hemolytic streptococci or *B. Welchii*), where the patient may die within 24 hours, give large doses of sulfanilamide at the start, so that the concentration of the drug in the blood will reach 10 to 15 mg. percent within six hours. Give from 5 to 10 grains of sodium bicarbonate with each dose. Do *not* give too much water (not more than 3,500 cc. in 24 hours). The same plan may be followed, approximately, in severe cases of streptococcic sore throat, scarlet fever, erysipelas, and Malta fever (brucellosis).

Smaller doses of sulfanilamide are useful in bone and middle-ear infections with streptococci and staphylococci, and the treatment should be continued for ten days after the symptoms subside, or until the temperature has been normal for three or four days.

In *gonorrhea,* if the patient is ambulant, give fairly large doses (from 60 to 90 grains —4 to 6 Gm.—daily, in four doses) for four days; 30 to 45 grains (2 to 3 Gm.) daily for ten days; and then 20 grains (1.32 Gm.) daily for twenty days. It is, perhaps, better to put the patient to bed, allow 2,500 cc. of fluid daily, and give heavy doses of sulfanilamide for several days.

To obtain results in *urinary infections,* the concentration of sulfanilamide in the urine must be kept at from 100 to 300 mg. percent. The former concentration can be obtained by giving 30 grains (2 Gm.) daily, in 4 doses, for 4 days, and the treatment should be continued for 5 days more to sterilize the urine. A daily dose of 42 grains (2.8 Gm.) will give a concentration in the urine of 200 mg. percent. If there is a stone or other obstruction in the urinary passages, the results are not so good.

Toxic symptoms from sulfanilamide are, ordinarily, anorexia, dizziness, cyanosis, and simple, mild fever. If high fever or dermatitis develops, *stop the drug at once.*

Alcohol is a synergist to sulfanilamide, so no patient should drink liquor while taking that drug, nor should he attempt to drive a car.

IMMEDIATE CARE OF FRACTURES

By Clay Ray Murray, M.D., F.A.C.S., New York City

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IN COMPOUND FRACTURES, the first requirement is *mechanical* cleansing (without causing trauma) with from 10 to 15 *gallons* of physiologic saline solution. This should be done *early,* as it is of less value later.

Debridement should be done *carefully,* so as not to carry infection from superficial tissues to deeper ones. Remove all dead tissues *layer by layer,* using *fresh instruments* (a *sharp* scalpel and forceps *only*) for each layer.

Do *not* close the wound after debridement, but *place* the sutures (to be *tied* four or five days later). It will take some time for the bone to heal, in any case. Closed

tissues are *tense* tissues, which encourage infections and make them worse.

Decide what method of treatment is to be used *when the case is first seen.* Do not fiddle along for days or weeks while you make up your mind.

If shock is present, treat it, *along with definitive treatment of the fracture, not separately and first.*

In all fractures between the hip and the foot, where the patient has to be transported, use a *half-ring Thomas splint* for the first dressing. Place the ring in the crotch, on the injured side, and fasten the strap across the front while an assistant holds the leg in firm traction; place a *heavy* pad around the ankle, and over this fasten heavy cords, with free ends *on both sides,* and then tie these together *tightly* under the tip of the splint; bandage the leg in the splint; put a couple of tongue depressors, or a short, stout piece of wood, between the cords, between the foot and the splint, twist them as tight as possible, and anchor the twisting stick. In this dressing a patient can be moved in any way, with absolute immobilization of the fragments and with relief of pain as prompt and positive as that afforded by morphine.

The Thomas arm splint, for fractures of the upper extremity, works on the same principles.

Cord injuries in spine fractures are caused by *handling the patient carelessly.* He should be lifted *as a whole.* Do not jack-knife him. If the fracture is low, transport him prone (face down); if high, supine (on his back), but *do not flex the neck.*

If the patient is on his back when found, and is to stay that way, one assistant holds his head and another his ankles, making gentle traction while he is slid onto a litter or a board by pulling on his clothes. The same principles must be applied if he is on his face or if he has to be turned over: Move the patient *as a unit,* and do not permit the spine to twist or bend.

MANAGEMENT OF PERITONITIS

By Vernon C. David, M.D., F.A.C.S., Chicago, Ill.

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THE PERITONEUM is resistant to infections, except those following perforation of the gut or after trauma and hemorrhage, in which cases there is a medium for bacterial growth.

Strive to avoid *general* peritonitis. Let it (or *make* it) *localize,* for later drainage. If the infection *is* localizing, do *not* operate early, but after two or three months. In appendiceal abscess, the *time* of operation determines the mortality.

If, at operation, the general peritoneal cavity is entered, *stop, pack it,* and *wait!*

When operating upon a suppurating appendix, put in a collapsible Penrose drain.

Postoperative peritonitis is nearly 100 percent fatal; but this mortality can be reduced by the local use of bacterial vaccines or by injecting amniotic fluid. If all sutures are tight, so that *no leakage can occur,* peritonitis is rare, even after radical operations.

If peritonitis develops, all body fluids lost must be promptly replaced with 10 percent dextrose in physiologic salt solution—from 3,500 to 5,000 cc. daily—administered by all routes (by mouth, subcutaneously, and intravenously). Distension should be minimized by the continuous use of a duodenal tube.

If acute rupture of a viscus is operated upon *early,* and the opening is *carefully closed,* peritonitis is rare.

Before any extensive gut resection, the patient should have a week of preparation. If there is serious obstruction, a preliminary colostomy or enterostomy should be performed above the lesion, several days before the operation. It is also well to insert a catheter into the cecum, as a gas-vent.

PEPTIC ULCERS AND GASTROJEJUNOCOLIC FISTULA

By Frank H. Lahey, M.D., F.A.C.S., Boston, Mass.

Director, Lahey Clinic

IT APPEARS that we must reconsider the matter of gastric, duodenal, and jejunal ulcers and gastrojejunocolic fistula, as these conditions now seem to be more serious than we had thought. Ideas have changed, and also the medical and surgical treatment.

Ulcer patients who have hemorrhages are not safe (5 percent die in hospital); malignant disease is a real danger; many cases (or stages) can be treated successfully without surgery.

The period of hyperacidity and pylorospasm is the time for medical treatment which, to be successful, requires the *full cooperation* of the patient; but most of them will not modify their eating, drinking, and smoking habits, and their stressful way of life, at this preulcer stage. These facts should be *widely published.*

The easiest operation to perform in these cases (gastroenterostomy) is the poorest, and should be chosen only when a more radical operation would be too dangerous; never as a *routine.* Every time one does a gastroenterostomy, one should think of jejunal ulcer (which occurs in 15 percent

of these cases) and of gastrojejunocolic fistula (which develops in 11 percent of cases and has a mortality of 60 percent). Subtotal gastrectomy, removing four-fifths of the stomach, gives better results and the *ultimate* mortality is less. In 48 cases thus treated at the Clinic in the past year, there has been no death.

There are two types of hemorrhage, and some patients die who, if they had been operated upon *within 24 hours*, might have lived. Do *not* operate if the patient has been bleeding for three days or more, because then he is anemic, "run down," and tissue changes have taken place. If the patient bleeds *repeatedly*, in the first 24 hours, operate *at once;* ligate the bleeding vessel; do a high gastroenterostomy; and later, when he is better, perform the radical operation.

There are nine duodenal ulcers to one gastric. We operate upon 8 percent of the former and 23 percent of the latter.

Exhaust the possibilities of medical treatment first. Put the patient to bed and observe him, under treatment. If the occult blood, symptoms, and filling defect disappear, *do not operate*. If not, then do a subtotal gastrectomy unless the risk appears too great; in that case, do a conservative operation.

If the ulcer is on the *greater* curvature of the stomach or in the prepyloric region, *operate at once*, as the danger of malignant changes is great in these locations.

If the patient gives a history of duodenal ulcer symptoms; a gastroenterostomy; relief of symptoms; and recurrence within from one to nineteen years, with pain *to the left of the umbilicus*, he probably has a gastrojejunal ulcer, which calls for a radical operation, after thorough preparation.

Gastrojejunocolic fistula is due to deficiency of vitamin B_2 (G), which means a mild or moderate stage of *pellagra*. The bowel empties very fast and the patient is emaciated. In these cases, transplant the ileum into the descending colon and resect the ascending and transverse colon, the duodenum, and four-fifths of the stomach.

PROGNOSIS IN HEART DISEASE

By Paul D. White, A.B., M.D., F.A.C.P., Boston, Mass.

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THE UNDUE STRESS which is now being laid upon heart disease has caused many cases of heart neuroses and has made many patients miserable, unnecessarily. A patient with a damaged heart may live long and happily. We must learn to recognize the difference between the *immediate* and the *ultimate* prognosis in these cases. The heart is a *tough* organ, which will stand much abuse and recover, even after serious impairment.

The conditions which throw an acute burden upon the heart are rheumatic heart disease, coronary occlusion, and extreme tachycardia, and these are genuinely serious. But even a patient with rheumatic pancarditis *may recover*, no matter how desperately ill he may appear at the moment.

Most people (even including a good many physicians) think that, if coronary disease can be diagnosed clinically, the jig is up and the patient will either die promptly, with his boots on, or after dragging out a few miserable years of invalidism. The fact is that thousands of such patients die of *fear*, free from all cardiac symptoms.

A patient with coronary disease can live *happily*, for many years, if he will use common sense and follow his doctor's orders. If he survives the first month after his episode, he will probably live a year; and if he lives a year, he will probably live for many years, if he has any judgment and self-control. Of course, he may have another, and fatal attack; but the same thing is true of a patient suffering from angina pectoris without demonstrable coronary disease. *Spontaneous recovery* tends to take place, no matter what treatment is given. Many patients, examined ten years after their attacks, are found perfectly clear; and such patients may live for from eighteen to twenty-five years.

We should discuss each heart case *frankly*, with the patient himself. Of course, he may die the next day, but that is true of any of us. If he will stay in bed for a few weeks, now and then, and reduce the strenuousness of his life, tobacco, rich foods, and late hours, but go on with a reasonably active and useful life, he need not be *permanently* disabled, though he may be so for a short while. Many cannot do the full work they were doing before the attack, but can still earn a good living. Disability insurance should so be arranged as to pay for total and partial, temporary and permanent disability. Physicians must learn not to *scare* their heart patients to death, *either complete or partial*. It is too easy, today, to yield to the pressure of circumstances. We need more guts.

The things just said are, in general, true for patients with paroxysmal tachycardia. The *immediate* prognosis in such cases is frequently bad, but, if the patient survives the attack, he may live *comfortably* for years, even with established heart block.

In general, the bigger the heart, the more negligent the patient, and the shorter-lived the family, the worse the prognosis; and vice versa. But we must recognize the fact that, even in severe cases, the *ultimate* prognosis may be good.

Physical and Office Therapy and Radiology

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Progress in Roentgenology

By

MAXIMILIAN JOHN HUBENY, M.D., F.A.C.P., F.A.C.R., Chicago

PROGRESS denotes advance, but this advance does not necessarily mean something new or different; more often it connotes an evaluation of developments. This, of course, is exceedingly important, as it is only by thoughtful experience that measures concerned with either diagnostic or therapeutic efforts can be appraised.

Since medicine is still an art, though highly scientific, medical statesmanship is a matter of personal equation. It is very important to know how to do a thing, but more important to know when *not* to do it. Accurate knowledge is a desideratum. This has been the keynote of roentgenologists throughout the world.

Therapy

X-Ray therapy has such a wide field of application, which is ever-expanding, that in the limits of this paper only a few of the more important phases can be mentioned.

Supervoltage therapy, notwithstanding its widely heralded theoretical advantages, is still to be proved of sufficient value to warrant the installation of the necessary apparatus. However, a close cooperation of groups, each consisting of a radiologist, special surgeons, a pathologist, and a physicist will, after years of diligent observation, establish the degree of its usefulness.

It is only fair to state that some of these groups are fully aware of the financial burdens of the patients and have made their charges compatible with the unavoidable large cost of the installation and maintenance of the apparatus.

Herrell, of the Mayo Clinic, and Smith, of the Massachusetts General Hospital, have done some important work sustaining the current belief, which is becoming more general, that ovarian function plays an important part in the genesis of cancer of the breast, and that pregnancy definitely increases the stimulus to carcinoma growth. Many careful clinicians believe that suppressing ovarian function, in women who have cancer of the breast, is a legitimate and well established procedure of distinct value. Sterilization by irradiation is proposed as a most effective method of procedure in all cases in which complete suppression of menstrual function is required, and in some instances it is the method of choice, for it can be carried out without the morbidity and mortality occasionally associated with surgical procedures.

Clarkson and Baker report a five-year cure in cancer of the breast, despite extensive bone metastasis, suggesting that irradiation is always worth while, even in advanced cases.

Recent reports from the British Cancer Commission advanced the increased employment of x-rays and radium in the treatment

of cancer of the cervix, and reported more beneficial results. Interstitial radium therapy is no longer employed for this lesion.

In cancer of the breast, the British are, to an increasing extent, utilizing surface irradiation, and have found constantly better results from the combination of irradiation and surgery in the treatment of advanced cancer.

For inoperable visceral carcinoma, x-ray therapy offers a useful therapeutic means of relief. This method is not new, but Merritt emphasizes its value when used as a preoperative measure, especially as it may at times make an inoperable cancer operable, or at least amenable to surgical interference otherwise impossible.

This is a suggestion worth remembering, particularly in lesions declared hopeless if treated in a routine manner. Even the few cases which are helped justify the employment of this method in all cases.

That peptic ulcers can be favorably affected by irradiation still awaits confirmation. Hodges reports irradiation to be an effective method for controlling and healing inflammatory lesions, and it might, therefore, reasonably be supposed to be of particular value in ulcerative conditions within the viscera. Corroboration of the effectiveness of such therapy for peptic ulcer is, however, still lacking.

There can be no question that x-ray therapy is becoming a procedure of first choice in the treatment of thyrotoxicosis. It controls the disease as well as surgery, but without the mortality and morbidity. Harris and Rose correctly rate irradiation as the safest and most effective method for treating certain types of hyperthyroidism.

O'Brien offers a method of treatment for chronic deafness, substantiated by a large series of cases, with encouraging results.

Despite all the therapeutic measures for the control of lobar pneumonia, it still is the cause of tremendous mortality. Powell proposes irradiation, because of its beneficial effect in infections, as a really efficacious method of treatment. If physicians generally can be induced to accord this treatment more widespread clinical trial and evaluation we shall soon be in a position to determine its worth.

Because direct irradiation is believed to be more effective, attempts have been made to localize and expose visceral organs to such irradiations. This method has been deemed most desirable in treating neurologic conditions, especially when situated in the brain. Elsberg and his co-workers report such procedure, with a specially adapted x-ray apparatus whereby the rays are applied directly, through a trephine opening in the skull. The results, while satisfactory in animals, have not been proved of equal value in human beings and, therefore, the clinical worth of this method remains to be established.

Various forms of cellulitis, especially gas bacillus infections, those following human bites, and those occurring after dental extractions, respond to relatively small doses of x-radiation.

Diagnosis

This section will deal solely with diagnostic values, and necessarily briefly, mentioning only in a most superficial manner, some of the more important data.

Farmer reviews 40 cases of anomalous processes in the lumbar vertebrae. With the exception of one instance, these bony new growths were observed in the inferior processes of the second and third lumbar facets. These abnormalities are of interest because they may be construed as fractures and unnecessary surgical procedures attempted; also, the liability due to workmen's compensation may be involved.

Miller summarizes the various hypotheses concerning the etiology of osteochondritis dissecans. The theory of traumatic origin includes subchondral fracture, traumatic occlusion of the end arteries of bone with secondary involvement of bone, trauma resulting in inflammation of bone, and superimposed injury on an already diseased bone. The theory of non-traumatic origin is based on vascular involvement, the result of inflammation, heredity, and chronic arthritis.

In the case reported by him, and studied by the aid of repeated roentgenograms for a considerable period, the condition is explained on the basis of the history of the trauma, which was slight but repeated in character and was produced by the action of the head of the radius on the capitellum of the humerus, with the result that the end-arteries were injured and necrosis occurred. The point of interest in this instance is the part involved.

Sashin, and also Hampton and Robinson, have amplified past experiences and reports on the relation of pathologic changes in the intervertebral disks to the production of back pains and compression of the spinal nerve roots. Combined neurologic and x-ray examinations, with and without lipiodol injections, yield gratifying results and appear to be harmless.

Caffey has much information on the bone changes found after administration of bismuth in syphilis, and states that the skeletal changes are identical, roentgenographically, with those following the introduction of lead. The characteristics of the bismuth shadows—their dependence on and associated with growth, their size and distribution in the skeleton, and their resorption and disappearance—seem to be exactly similar to the same features in lead poisoning.

Clinical analysis indicates that the actual bismuth content at the ends of the long bones plays a small part in the production of the roentgenographic shadow, and that the calcium content of the compact cartilagenous matrix appears to be from 9 to 17 times as important, in this respect, as the amount of bismuth. This is at variance with conditions in similar lesions caused by lead, where the extraneous metal is present in the ratio of 4 to 1, as compared with calcium.

Allen has reported the use of arteriograms in 22 cases of Raynaud's disease in which the digital arteries did not fill normally and a constant filling defect must be present in the several films that are taken.

In patients who had a T-tube installed in the common bile duct, Doubilet and Colke measured the resistance of the sphincter of Oddi by connecting the T-tube to a manometer, after which the effect of local applications of drugs and hypodermic injections was observed, and readings were made of the resistance of the sphincter to a column of fluid. Often the first reading was much higher than the subsequent ones, which remained constant for a considerable period of time.

Experiments were conducted on seven patients. In one, where the resistance was measured the sixth day after operation, the column of fluid had to be raised to 230 mm. before the sphincter relaxed, while subsequent readings were consistently between 170 and 180 mm. On lipiodol injection, three days later, it was found that sufficient pressure had to be used to outline the larger hepatic ducts, before a little lipiodol could be forced into the duodenum. Roentgenologic examination revealed that the ducts were somewhat dilated and the intramural portion of the choledochus was not outlined, probably due to the pressure of the duodenal wall. The spasm was shown by the fact that, although the ampulla of Vater was filled, only a few drops of lipiodol were in the duodenum. Twenty-four hours later there was no lipiodol in the intestine, but some remained in the hepatic ducts, which proved the persistence of the spasm. Lipiodol examination, on the fourteenth day, still indicated marked spasm; only a few drops could be forced into the duodenum when sufficient pressure was used to outline the hepatic ducts.

In another case, the effect of ¼ grain (16 mg.) of morphine sulphate on sphincteric spasm was studied by injecting lipiodol five minutes after giving such a dose. Sufficient force was used to distend some of the finer hepatic radicles, yet no lipiodol entered the duodenum. Globules of lipiodol were seen to shoot through the sphincter into the duodenum, only when sufficient force had been applied to fill the finest bile-duct radicles, as well as the pancreatic duct. This demonstrates that sphincteric spasm can convert the choledochus and the duct of Wirsung into a common channel. The next day, injection of a fresh supply of lipiodol showed the hepatic ducts much less widely outlined than previously, yet the duodenum contained lipiodol. The administration of morphine had, consequently, caused marked sphincteric spasm.

Experiment showed that ingestion of food does not cause sphincteric relaxation in the absence of the gallbladder, but that duodenal lavage with magnesium sulphate does, and that instillation of dilute hydrochloric acid into the duodenum causes temporary relaxation of spasm, which is prevented by giving atropine. The spasm produced by morphine lasts more than three hours and is not influenced by atropine. Papaverine and adrenalin have a negligible effect.

Walters advises exploration of the common bile duct for stones during cholecystectomy, since, when overlooked, serious postoperative complications will occur. Stone or other obstruction is always followed either by dilation or thickening. Studies of intra-ductal pressure and confirmation by the use of opaque substances introduced through a T-tube, are of value in determining the persistence of pancreatitis or sphincteritis, interfering with the proper emptying of the common duct.

This brief resume leaves many things unmentioned; however, the medical uses of roentgen energy and the various apparatus used in its application portends an ever increasing knowledge in therapeutics and diagnosis.

25 E. Washington St.

THE AMERICAN'S CREED

I believe in the United States of America as a Government of the people, by the people, for the people, whose just powers are derived from the consent of the governed; a Democracy in a Republic; a Sovereign Nation of many Sovereign States; a perfect Union, one and inseparable, established upon those principles of Freedom, Equality, Justice, and Humanity for which American patriots sacrificed their lives and fortunes.

I therefore believe it is my duty to my country to love it; to support its constitution; to obey its laws; to respect its flag; and to defend it against all enemies.—WILLIAM TAYLOR PAGE.

Progress in Physical Therapy

Selective Radiofrequency Treatment

By
FRANK THOMAS WOODBURY, M.D., Poughkeepsie, N. Y.

IN 1928 (October 18), J. Henry Hallberg demonstrated, before the New York Electro-Therapeutic Society,[1] the presence of standing electromagnetic waves. This demonstration was made by means of the Lecher wire, familiar to physicists as a means for wave measurement, and his tunable ultrashort-wave generator (now called Synchrotone).

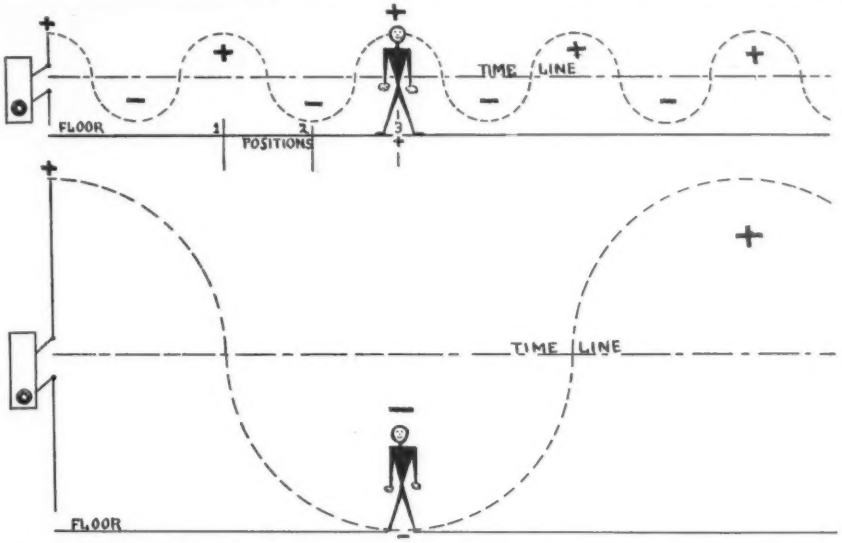

Fig. 1 (above): Showing alternate positive and negative high-potential points in a radiofrequency standing wave.
Fig. 2 (below): Showing polarity reversal by increasing the wavelength.

During this demonstration Hallberg showed two new physical phenomena: By placing a Crookes radiometer in the field of the Lecher wire, he showed that the ultrashort waves, not only caused a revolution of the vanes, as sun rays do, but also that he could slow down and actually reverse their revolution, so that the vanes would turn in an opposite direction to their normal rotation. This reversal of revolution was invariably obtained when the generator was tuned to a wavelength of 3.25 meters.

He also demonstrated that the exhausted gas in the Crookes tube could be made alternately either fluorescent or colorless by tuning the ultrashort-wave generator. These two remarkable physical phenomena still remain unexplained.

Pursuing his investigations further, Hallberg has found that the ultrashort waves are polarized, so that, when being emitted by a rod antenna, they will not be received by another rod antenna unless the receptor be in the same axial plane as the emitter, and that this applies also to the human body when used as a receptor.

When Prof. Burr, of Yale University, developed his micro-voltmeter for detecting minute changes of electrical potential in the human body,[2] Hallberg obtained one of these for experimentation. He found thereby that the electrical potential of the human subject, as indicated on the galvanometer (which read plus or minus from a zero potential on an arbitrary scale, but showing definite potential values), could be reversed by exposing the subject to an ultrashort-wave field of 3 meters, at distances of 30 or less feet, for a period of about 2 minutes. This phenomenon was also demonstrated in connection with men and plants in Prof. Burr's laboratory at New Haven, where an inductive coupling was used.

This gave strength to the correctness of Hallberg's original contention, that the

ultrashort-wave field will produce interrupted, uni-directional electrical pulsations in cells, by reason of the fact that the cell walls act as crystal rectifiers.

Hallberg reasoned, further, that the electrical sign of the pulsation produced in the cell substance must be of fundamental importance since, if a negative potential were produced where a positive potential was indicated, the result would be, not only useless, but even harmful.

Pursuing his investigations farther, Hallberg discovered the very interesting fact (shown in Fig. 1) that the crests and troughs of a standing-wave field have opposite electrical signs, as may be proved by a suitable detector. This has been called the *"Hallberg Effect."*

Now we may recall, in this connection, that Weissenberg and Prof. Potzl, of Vienna,[3, 4] have been accustomed to placing their patients along the curves of circles, of which the radio generator was the center, to receive the treatment from the impulses of the standing waves. This was done, however, empirically, as these clinicians were unaware of the Hallberg Effect, consequently their results were inconsistent—sometimes good, sometimes nil.

These experiments and demonstrations, and their implications, were revealed by Hallberg at Vienna, in July, 1937,[5] which prompted Dr. Jos. Nagler, director of the Physical Technical Museum, to state that he had observed that gas-filled tubes, placed in high-frequency fields, would act as rectifiers, causing a uni-directional current. This we may call the *"Nagler Effect."*

This rectification consists of the supression of one-half of the standing wave, and this is exactly what Hallberg declared in 1928 (conclusion 5, reference 1), when he said, "Certain cell membranes may act as crystal rectifiers so that, instead of going into a state of vibration, they become converters of high-frequency energy, forced through the body by means of these long waves, and in that way cause localized, more or less intermittent, uni-directional currents to flow."

When Hallberg returned from Vienna, he succeeded in making a gas-filled tube act as a rectifier, whereby he could produce either a positive or a negative uni-directional current impulse, by shifting the peaks of the standing waves along the tube, not in electrical contact, but simply by changing the wavelength by tuning. This, it seems, may be, in essence, the explanation of the very pronounced effects observed when nervous tissue is subjected to an ultrashort-wave radiofrequency field.

To further emphasize and explain the relationship between ultrashort standing waves and a human body placed in their magnetic field of force, consider Fig. 1, where an oscillator is illustrated with a vertical antenna, tuned at a specific wavelength to produce a standing wave in space, as illustrated on the time line, with alternate positive and negative high-potential points. It is evident that, if a patient stands at position No. 3, Fig. 1, he is under

Fig. 3: Showing methods of localizing the intensity of radiofrequency radiations.

the influence of successive positive magnetic stresses; and that, at No. 2 position, he would be under the influence of a negative potential force.

It is evident that the body may be shifted to position No. 2 for an opposite polarity impulse, or stimulation. The same effect can be obtained by reversing the vertical emitting antenna, so that its lower point will extend upward, as this inverts the standing wave.

Fig. 2 illustrates how this same polarity reversal may be obtained by increasing the wavelength, causing the negative impulse to include the patient at position 3 (disregarding any other effects due to change of frequency).

If it is desired to localize the intensity of the radiation from either positive or negative impulses, as has been explained in the foregoing paragraphs, merely placing a metal plate or piece of metal gauze over that portion of the body to be treated will concentrate the field; for example, over the forehead or over the left ear (see Fig. 3).

This scheme of field concentration was developed and put into practice by Dr. Weissenberg in the University Clinic for Nervous and Mental Diseases, in Vienna, for treatment of mental disorders.[4]

The problem, from a precision research point of view, is to determine when the patient requires the influence of a positive or a negative standing wave, and then to place him in that field.

Here is where the development of Prof. Burr's biologic vacuum-tube micro-voltmeter becomes important. For the purpose of illustrating how it may be applied in practice, reference is made to Fig. 4, where the micro-voltmeter is connected with a patient whose forefingers are immersed in non-polarizing cup electrodes containing saline solution, the patient being in the positive potential of a standing wave. In this particular position "D," the micro-voltmeter will read to the right of the zero on its galvanometer, which indicates the positive sign of the standing wave. The

patient may then be moved to the position where a maximum positive reading is obtained for maximum effect. It is evident that, if the patient should be moved to

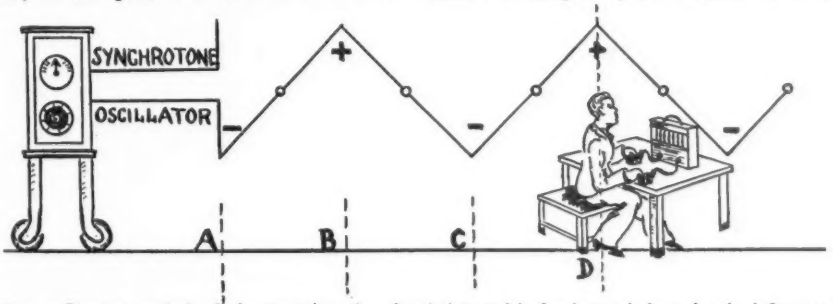

Fig. 4: Showing method of demonstrating the electrical potential of a human body under the influence of radiofrequency standing waves.

position "C" in Fig. 4, he will be under the influence of a negative sign of the standing wave and the micro-voltmeter will then read to the left of the zero on its galvanometer.

The importance, from the physicians' point of view, of determining the polarity of the applied standing wave cannot be over-estimated, and as far as is known up to this time, there is no other way to determine this polarity except by an instrument with the same characteristics as those of the Burr micro-voltmeter.

In microscopic examination of various organisms and tissues, it is well known that staining is determined by the receptivity of an alkaline or acid stain. This is, in substance, an electrical function, because polarity, or difference of potential in the same polarity, will determine an alkaline or an acid reaction. So far the process of staining has been used only for the purpose of making the microorganism visible against its background, but I believe that it may be used later for diagnosis and also for ascertaining the result of treatment by ultrashort-wave radiofrequencies.

It is well known also that certain organisms and cells act as anions or cations to an electrolytic current, and that the nuclei of cells have an opposite electrical sign to that of the cell plasma. Alkalinity and acidity are chemical words for electro-negative and electro-positive.

By control of the application of polarity effects of ultrashort waves, we have control of inflammatory processes, infective organisms, osmotic exchanges, and hydrogen ion concentrations.

We now see before us a new pathway of clinical investigation, in a search for clinical conditions in which there is a pronounced alteration of the electrical sign of a tissue from its normal state, and the application of the rectified electro-magnetic wave with an opposite electrical sign to restore the normal electrical status. Undoubtedly, if the hydrogen ion concentration of a tissue or the electrical sign of an invading organism is accurately known, it would at once indicate whether the patient should be exposed to an electro-positive or electro-negative influence of the ultrashort-wave radiofrequency energy. I expect to make further investigations and to keep aware of the investigations of others in this field, in order that I may present further important steps in the progress of non-thermal selective radiofrequency therapy to the readers of this Journal.

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175 Mansion Square.

LEADERSHIP

A people takes its moral tone from the leadership it accepts. However desirable its objectives, that leadership which subordinates means to ends, which is repeatedly disingenuous in its appeals for continued support, must in the end defeat itself.—J. DONALD ADAMS, *in* Atlantic Monthly, *through* Reader's Digest.

The Value of Ultraviolet Therapy

THE VALUE of ultraviolet radiation in the prevention and cure of rickets and tetany is an accepted fact and has been proved indisputably to be both safe and specific, if given under the conditions generally outlined.

In the treatment of fractures of bone, experimental evidence points to radiation as being of little if any value.

In the treatment of tuberculosis, no claims for the specificity of ultra-violet radiation have yet been substantiated, though many authors still regard irradiation as a useful aid to other forms of treatment.

In the treatment of skin diseases of bacterial origin, ultraviolet radiation may be of value, provided the organisms lie within the range to which the rays penetrate and are killed or attenuated by doses safe for the host. In other skin diseases, such as psoriasis, beneficial results might be due to the effect of radiation in producing hyperemia.

Skin tumors have been produced in rats and mice by prolonged exposure to ultraviolet radiation, but the exposures needed are so far outside the range in general use by man, either in sun bathing or in the use of rays from artificial sources, that a warning of danger seems unnecessry. A caution, however, to avoid the abuse of radiation therapy, since its effects on the skin are imperfectly understood is, at this stage of our knowledge, completely justified. More research is undoubtedly needed on the question of the photodynamic effect of radiation on the skin, with special reference to the possible synthesis, in the skin, of the carcinogenic hydrocarbons.—ETHEL M. LUCE-CLAUSEN, in *J.A.M.A.*, July 23, 1938.

Prostigmin in Abdominal Roentgenography

ALTHOUGH THE KNOWN PHARMACOLOGY of Prostigmin obviously suggests its usefulness in roentgenography, the literature discloses no cases in which the drug has been used for dispelling gas shadows prior to roentgen-ray examination.

In 39 cases, each patient received 2 cc. of Prostigmin methylsulfate (1:2000) the night before the examination, and an identical dose the next morning, one hour before the examination. No other procedures or special diet formed part of the preparation. In every instance the patient experienced increased intestinal action twenty to thirty minutes after the drug had been administered. There were no complaints of abdominal distress; no change in cardiac action; no visual disturbances were reported; and at no time did the drug have an undesirable effect on the mental condition. Prostigmin methylsulfate is, therefore, a highly useful drug in preparing patients for roentgenographic studies.—MALCOLM J. FARRELL, M.D., in *New Eng. J. of Med.*, Aug. 25, 1938.

Use our reader service department "Send for This Literature."

Treatment of Cervicitis*

THE SYMPTOM which brings the patient with cervicitis to the physician is usually a vaginal discharge, but obviously leukorrhea is not pathognomonic of cervicitis. There is no doubt that upper respiratory infections (tonsillitis, sinusitis, acute contagious diseases) may be the underlying cause of cervicitis, especially in young women. *Painful urination* and *abdominal pains* were complained of by a large number of our patients.

Technic: When the nasal type of cautery is used, it should be limited to multiple linear striping, with one lip of the cervix being treated at a time. Our method is to make multiple linear stripes through the inflamed area and well into the endocervix, the gutters being placed about 0.5 centimeter apart and about 2 millimeters deep.

Following the cauterization, there is a marked increase in the vaginal discharge, which continues for a week or more and then diminishes until healing is complete.

We instruct each patient what to observe; to report at once if bleeding, pain, fever, or other symptoms appear; to take no douches or cathartics; to omit active exercise; and to refrain from intercourse. A mild antiseptic suppository is inserted at bedtime. The patient returns in a week for examination.

An intracervical coagulation tip (Ende-Cherry) was used in those cases with patulous cervices. The tip is inserted into the cervical canal up to the internal os and the foot switch of the diathermy machine closed. The physician counts up to ten when the current is on, and the position of the instrument is changed at each application by a slight turn. The patient may notice a slight, transient, crampy pain. The entire circumference of the cervical canal is not uniformly coagulated, but sufficient infected tissue is destroyed to permit ade-

*Med. Rec., Sept. 21, 1938.

quate drainage. In using this tip, the milliamperage of the instrument is low and the points set very close. No local anesthesia is necessary.

We recommend the nasal tip cautery as being of special value in hypertrophies of the organ, and in treatment of erosions and eversions. The coagulation tip is ideal for the destruction of infected cervical glands in chronic endocervicitis.

WALTER M. BRUNET, M.D.
J. B. SALBERG, M.D.
Chicago, Illinois.

Air Pyelography

INJECTION OF AIR into the renal pelves will often enable a stone to be visualized that would otherwise be hidden beneath the opaque media commonly used. It is as safe as the usual pyelographic procedure. It is indicated in those cases where there is a suspicion of a roentgen-ray-negative stone, or in which it is necessary to localize definitely a roentgenologically pale shadow seen on the plain roentgen film.—BOLAND HUGHES, M.D., in *Penn. M. J.*, July, 1938.

★ *Books* ★

Physical Therapy

WADDINGTON

PHYSICAL THERAPY, THEORETICAL AND CLINICAL. *By* J. E. G. WADDINGTON, M.D., C.M. *(Bennett), Former President Western Association of Physical Therapy; Life Member American Congress Physical Therapy; Honorary Member National Society of Physical Therapy; Delegate to Fifth International Congress of Physiotherapy, Liege, Belgium, 1930; Author, Practical Index to Electro and Photo Therapy; etc., with an Introduction by W. J. Turrell, M.A., D.M., B.Ch. (Oxon.) D.M.R. & E. (Cantab.). Physician in Charge of the Physiotherapy Department, Radcliffe Infirmary, Oxford. 274 Illustrations. Saint Paul: Bruce Publishing Company. Price, $5.50.*

DR. WADDINGTON writes brilliantly and concisely on the most popular method of treatment today. He says, "Of books appertaining to physical therapy, there is no end; their multiplicity is like unto the stars and their contents as variantly brilliant, mediocre, or nebulous." It is safe to say that his handy-size volume will be read with profit by all those physicians who feel that their knowledge of physical therapy is incomplete.

For those who wish to learn of the foundations of electro-therapy, several chapters are furnished on the physics of electricity. A discussion on electrodiagnosis gives complete information on the value and technic of electric testing of nerves. The entire range of short-wave, long-wave, electrosurgery, ultraviolet, static electricity, heat therapy and pyrexia, phototherapy, and associated treatments are considered in a practical way.

The chapter on philosophy and numerous comments throughout the book indicate the basic type of thinking that pervades the entire discussion. Dr. Waddington feels that the general practitioner should have at least diathermy or short-wave apparatus, a combined galvanic and sinusoidal outfit, and an ultraviolet lamp, to furnish adequate physical therapy treatment.

Clinical Roentgenology of the Digestive Tract

FELDMAN

CLINICAL ROENTGENOLOGY OF THE DIGESTIVE TRACT. *By* MAURICE FELDMAN, M.D., *Associate Professor of Gastro-Enterology, University of Maryland; Associate Roentgenologist, Sinai Hospital; Assistant in Gastro-Enterology, Mercy Hospital, Baltimore, Maryland. Baltimore: William Wood and Company. 1938. Price, $10.00.*

WOULD that all who use the roentgen rays in diagnosis were as evenly balanced as Dr. Feldman! He believes that, in certain cases, it may be necessary to disregard the x-ray findings, if they disagree with clinical findings which are assured. On the other hand, he is willing to accept roentgen-ray evidence without clinical findings.

"All patients in whom digestive symptoms of a subacute or, more particularly, of a chronic type occur, even though these be of a minor character, whether continuous or recurrent, should be studied roentgenologically. Many digestive affections are preceded by a latent period, during which symptoms may be extremely insignificant or even absent."

The esophagus, the stomach, the duodenum, the small intestine, the colon, hernia, appendix, gallbladder, and pancreas are discussed in successive chapters. The final chapter covers such miscellaneous conditions as ascites, pneumoperitoneum, peritonitis, various abdominal tumors, and secondary gastro-intestinal disturbances.

A technic is given whereby the pancreas may be visualized indirectly. Certain cases of cardiospasm were shown to be due to peptic ulcer of the esophagus. Recent work on mucosal relief, in the study of stomach and intestinal tract mucous membrane, is included. The reproductions of roentgen-ray negatives are clear and are well printed on highly finished paper.

The book is well written, concise and readable. It contains a mass of easily-referred-to information on the diseases of the gastro-intestinal tract and its subsidiary organs, and should be a great help to any roentgenologist or gastro-enterologist.

A Living for the Doctor

The Business of Medicine and the Art of Living

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Associate Editor: Ralph L. Gorrell, B.S.M., M.D., D.N.B.

A Foretaste of State Medicine

THE SEPTEMBER 9, 1938 number of the *Medical World* (London), which is the official organ of the Medical Practitioner's Union of England, should be confiscated by those persons who are endeavoring to introduce State Medicine into this country. It seems that all is not merry in "Merrie England," at least the physicians who are reputed to have benefited by socialized medicine there do not feel that way, as witness this touching paragraph:

"The life and work of the average insurance practitioner are not always to be envied. He is at the mercy of so many different masters that he can never call his time or leisure his own, except, perhaps, when he is on holiday. He certainly deserves every consideration at the hands of the Ministry of Health."

Two years ago, the insurance physicians in England put forth a claim that the fee of nine shillings per person, which had been established 12 years previously, was then not sufficient, as the amount of service and its complexity had markedly increased during the interim and that many long, tedious reports had to be filled out by the physician. The Minister and the Secretary of State "felt unable to admit the claim, and even considered that there were grounds on which a reduction of the fee could be justified"!

The seductive figures given to physicians show that the average income of the doctor would be increased by State Medicine, and very well it might, *for the first few years*, but what is to prevent a later reduction in compensation and much increase in clerical work? Several physicians who were hired by regional areas in Canada, at fairly good salaries, soon found that when taxes were not well paid, as much as half of their salaries was never paid.

The first two pages of the issue mentioned contain a number of other references to the medical regulations. Here is an especially juicy one: 1,218 cases were reported to the Minister for determination whether an operation or other service was within the scope of medical benefit. "The local Medical Committee and the Insurance Committee agreed that 53 of these cases were, and 1,165 cases were not, within the scope of medical benefit." In other words, *20 persons out of 21 were not covered by the vaunted State medical service.* Do your patients know that? Better tell them! It is not the few dollars for the office or house call that break up the average individual's economic scheme, but rather the cost of an operation or major diagnostic study.

Nine hundred pounds (approximately $4,500) were withheld from 92 physicians for breach of contract. Infringement of contract includes such heinous crimes (?) as these: (1) Failure to furnish information required by Regional Medical Officers; (2) failure to keep proper medical records; (3) infringements of the Medical Certification Rules; (4) improper charging of fees to insured persons; and (5) failure to make adequate provision for conduct of practise during absence. We note that only one of these infringements concerns the care of the patient, and that none concern poor or insufficient care. 'Tis more important to fill out many printed forms than to know what is wrong with the patient or what to do about it.

R. L. G.

Curiosity and Prejudice

THE TRUE SCIENTIST has an overwhelming passion for truth and an insatiable curiosity regarding facts. The thinking man, realizing that there are always two sides to every question, especially those that are controversial, and knowing that any opinion formed without considering both sides is a *prejudice*—an emotional reaction rather than an intelligent idea—is distressed by the fact that, for some reason, only one side of several important matters is being presented to us through the avenues of general public information—newspapers, magazines, the radio, etc.

Since physicians are both scientifically trained and thinking men, many of our readers must have wondered, sometimes, how and where they could, for example, discover some facts regarding the other side of the Far Eastern embroglio, but their curiosity has not been sufficiently urgent to make them *work* at finding out.

Since our curiosity had enough drive behind it to set us searching, and since we have discovered several sources of authentic information which enlarges one's perspective and clarifies one's thinking, we are going to make it easier for those who *really want to know* to satisfy that craving.

Anyone who will write to the Japanese Chamber of Commerce, 500 Fifth Ave., New York, N. Y., asking for one or several of their booklets presenting some little-known *facts* of the situation (it would be courteous to enclose a stamp for a reply), will, we are sure, receive prompt and courteous attention; also, a postcard sent to the editor of *Far Eastern Affairs*, 447 Sutter St., San Francisco, Calif., requesting a sample copy, will be an introduction to an extremely interesting and unusual little magazine, which gives one plenty of food for thought.

Incidentally, those who have sufficient curiosity about the other side of the Spanish situation to spend three nickles for its gratification (the Nationalists seem to have no well-stocked chest of funds for propaganda), will get their money's worth by sending that sum to Peninsular News Service, Inc., 2 E. 34th St., Room 808, New York City, for a copy of the well-made and highly informative magazine, *Spain*.

After spending half as much time in a study of the viewpoints on these matters which appear to be emotionally unpopular in this country, as one has spent in reading the readily available literature which has so effectively built up and fostered this emotional attitude, one will, at least, have some real *ideas*, as distinguished from the prejudices which even lazy people can develop without any effort whatsoever.

G. B. L.

★ Notes and Abstracts ★

Legality

ONE RULER MAY LEAD PEOPLE, another may drive them; but the one who leads his people achieves the greatest results, and is remembered long after the driver's name has been forgotten. The name of Julius Caesar is known today, not because of his military conquests, but because of his ability as a *lawgiver*. Roman law is, even today, the foundation stone of all modern jurisprudence.

What is the difference between a lawmaker and a lawgiver? Well, Moses, David, Julius Caesar, Jesus, Buddha, Mahomet, even Napoleon, were essentially lawgivers all, because they established principles that have come down through the ages and yet endure, and will endure forever. We mention Napoleon (with all his "sins") because he was courageous enough to enact a law that a bastard had equal legal inheritance rights with the socalled "legitimate" children of the same paternity. Possibly the Little Corporal took the sane view that it is the parent who was illegitimate, and not the child.

The *lawmakers* are the freaks of the moment. Especially is this true in so far as laws in these United States are concerned. Consider the awful era of the prohibition of the sale of alcoholic liquors. That era was the result of lawmaking rather than that of lawgiving.

Possibly the greatest lawgiver of all time was Moses; he enunciated ten simple laws that have never been rendered obsolescent. May it not be true that the billions upon billions of laws enacted since the time of

Moses are more provocative of crime than is any one other factor? To paraphrase Madame Roland, one might well exclaim, "O Legality! Legality! How many crimes are committed in thy name!"

Consider that "grease spot upon the page of history," Henry VIII; he never committed an illegal act during his long years of reign over England. Yes, one may well smile at the legality of the acts of Henry; but also consider the mass production of laws made in Washington and in all of our state capitals, and one today may well weep.

Unless one is well-heeled there is not a smile in the whole sorry mess. It is to be doubted whether even a Mark Twain could or would wisecrack about the federal, state, municipal, and county taxes of today. Yet, it is all legal.

Most of us can *make* things of no worth, but few of us are able or willing to *give* things of worth. That is the vast difference between a lawmaker and a lawgiver. The former is a political demagogue, the latter is a genius.—*Kalends of the Waverly Press.*

For the Booklover

THOSE WHO LOVE BOOKS and want to make them attractive can, if they are willing to mutilate their copies of "C. M. & S.," cut out the picture, "The Doctor's Study," at the head of the book review section, mount it on a piece of white paper, and paste it on the inside of the front cover or on the fly-leaf of favorite medical books. As this picture appears each month, a number of books can be uniformly "dressed up" in this manner.

ALBERT WEISER
Boston, Mass. (Medical Student)

Growing Old Gracefully*

EVERY LIFE HAS A PATTERN, every human being represents an entity, a life to be lived *completely*, through infancy, childhood, adolescence, middle age, and into a graceful old age; yet how often destiny decrees otherwise. If we escape the very danger of being born, we are continuously confronted, throughout our years, with the interruption of this pattern by some acute illness or serious accident. As Dublin puts it, "This light (life) will most surely burn out if nothing intervenes to snuff it out."

As we give some thought to the question of longevity, we soon realize that we can not *demand* a graceful old age, but must *achieve* it. At this point one may ask, when do we get to old age and what constitutes it? For some it steals on softly, like the approaching night, while with others it comes all too abruptly and unexpectedly. Perhaps at the very zenith of a man's power he discovers that the tempo has changed; there comes the gradual flagging of his desires, failing powers, and progressive fatigue—the beginning of senescence. Most human beings have an aversion to the acceptance of this, yet it is folly to be youthful unless one is young. The Chinese have a proverb: "It is easy to die, but difficult to die at the right time; however, no road is the right one to him who knows not whither he goes."

Let us remember Browning's "Rabbi Ben Ezra."

"Grow old along with me!
The best is yet to be,
The last of life, for which the first
was made;
Our times are in His hand
Who saith, 'A whole I planned';
Youth shows but half; trust God;
see all, nor be afraid."

CHARLES F. GORMLY

*Rhode I. M. J., Oct., 1937.

CLINICAL MEDICINE AND SURGERY gives what everyone wants who takes it—practical helps in diagnosis and treatment, not a lot of high-brow stuff, suitable only for specialists.—Dr. F. R. C., Ohio.

★ Books ★

Physicians' Accounts

DR. COLWELL'S DAILY LOG FOR PHYSICIANS. *A Brief, Simple, Accurate, Financial Record for the Physician's Office. Champaign, Illinois: The Colwell Publishing Co. Price, $6.00.*

THE New 1939 Daily Log is a complete accounting system in one volume. Daily, monthly, and annual records are available at a glance. Narcotic, inoculation, social security, income and expense sheets, and additional pages for busy days, make a complete record. The expense and income sheets are a great asset for income tax reports, showing readily one's net income and expense, as well as the trend of business from month to month.

The obstetric sheets prove helpful in prompting the sending of inoculation notices at the end of six months and, with the surgical pages, show month by month one's progress or decline in these fields.

I am glad to recommend this book. It has proved itself to be the most simple and yet complete system for medical bookkeeping used in my ten years of practice.

J. E. F.

The Seminar

"A Monthly Postgraduate Course"

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(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Illinois.)

Problem No. 11 (Medical)

Submitted by Frederick Taylor, B.S., M.D., F.A.C.P., High Point, N.C.

RECAPITULATION: A parcel-post carrier of 42 years complained of weakness in his legs, so that he could not work. Since an attack of influenza, four years before, he had had a good deal of digestive disturbance, with vomiting one hour after meals for 18 months. There was never any blood in the vomitus or stools. In the past four months he had lost 20 pounds in weight. The vomiting stopped when he stopped work. When his stomach was worst, his tongue looked red and raw. His feet, fingers, and both legs began to feel numb several months previously, and this has been slowly increasing. A careful general examination revealed no further abnormalities.

Neurologic examination: His knee jerks and biceps reflexes were four-plus bilaterally; no ankle clonius nor Babinski sign; grip normal in both hands; feet slightly hypesthetic; in Romberg test, he tended to fall to the right.

Laboratory tests, including the Wassermann test and gastric analysis, were negative. Blood studies, one year ago, showed: Hemoglobin, 91 percent; red cells, 5,480,000; leukocytes, 6,400. When I saw him: Hemoglobin, 95 percent; red cells, 4,010,000; leukocytes, 8,000.

Requirements: Suggest a tentative diagnosis, *giving reasons.* What further information would you require to make a positive diagnosis?

Discussion by Frederick Weiss, M.D., Harvey, Ill.

In the solution of this problem, the picture of dizziness, weakness, numbness of the extremities, glossitis, and achlorhydria, attended with neurologic symptoms, is the picture of a subacute combined degeneration of the cord, with attendant anemia.

The picture of the blood, as given, is inadequate, as is likewise any previous therapy that had been given. This is important in attempting to discern the type of the anemia, which obviously, at present is hyperchromic.

In the workup one should get a complete blood description, with cresyl blue stain for reticulocytes; roentgenograms of the stomach, to rule out a malignant disease; and a gastric analysis after histamine administration, to ascertain if true achlorhydria is present. One must rule out an anemia on some other basis which might give a similar picture.

For *treatment,* this individual should receive concentrated liver and iron preparations, with or without stomach mucosa, dilute hydrochloric acid, and vitamin B.

Discussion by W. E. Fitzsimons, B.A., M.D., Brainerd, Minn.

This problem is rendered somewhat difficult because of the high percentage of hemoglobin. The patient's vomiting may possibly be on the basis of a neurologic lesion, as he obviously has another lesion of the central nervous system; however, my impression is that the vomiting is on a psychic basis or related to the glossitis.

The patient obviously has a subacute combined degeneration of the spinal cord, the degeneration of the crossed pyramidal tract causing the hyperactive reflexes and that of the posterior columns giving rise to the sensation of numbness in the fingers and feet.

With these findings, and also achylia gastrica, it seems that the correct diagnosis would be *pernicious anemia.* The high color index (hemoglobin 95 percent and

red-cell count 4,010,000) would also indicate the same diagnosis.

I should like to have a report on a blood smear, which, in this case, would probably show evidence of abnormal regeneration, anisocytosis, etc.

The *treatment* would be that of any other case of pernicious anemia; that is, large doses of liver, in any form that the physician prefers.

Discussion by G. M. Russell, M.D.

The character of the vomitus in this case is not stated, but its occurrence would render one suspicious of an obstruction.

I should want a gastroscopic examination, a roentgenogram of the gastro-intestinal tract, following a barium meal, and also one of the head, and examinations of the spinal fluid, eye grounds, and a blood smear.

My diagnosis is *pernicious anemia*, on account of the sore tongue, relatively low red-cell count, and high hemoglobin. The numbness of the legs is probably evidence of subacute combined degeneration (posterolateral sclerosis). The increased reflexes are also significant. The patient may also have had a pyloric ulcer, with resultant sclerosis and obstruction. I have seen a pyloric ulcer in a pernicious anemia case, with no free hydrochloric acid on fractional analysis. The Romberg phenomenon would point to a possible cerebellar tumor.

Treatment: If the blood smear showed macrocytes, treatment would consist of liver extract, orally and intramuscularly, and dilute hydrochloric acid, by mouth, after meals. If obstruction were found by x-ray studies, gastric resection or gastroenterostomy would be indicated. If cerebellar tumor is found, a brain surgeon should be called in.

Solution by Dr. Taylor*

I once heard Dr. Henry A. Christian remark that, in many cases of pernicious anemia, the blood examination was the least important procedure that was carried out. In such cases, the clinical history and physical findings make the diagnosis and confirmation is given by the finding of achlorhydria.

A number of significant points appear in this history. Although the patient was severely ill for some months, he lost astonishingly little weight. A very important statement is his association of stomach distress and vomiting with the "rawness" and redness of his tongue.

He appeared sallow but not pale, and his skin did not have a lemon-yellow hue. Despite this and his relatively normal blood picture (although I found a high color index), a diagnosis of *pernicious anemia in remission* was made.

He made an uneventful recovery on injections of 1 cc. of concentrated liver extract by intramuscular injection, daily, and has remained well on one such injection every two weeks. The patient was trained to give himself the injections, as finances were already strained by his long illness. It is easier and safer to do this than to teach the diabetic patient to administer his own insulin.

*Adapted from *Southern Med. and Surg.*, June, 1938.

Problem No. 1—1939 (Diagnostic)

Presented by Louis X. Bell, M.D., Hollywood, Calif.

A YOUNG married woman, age 30 years, was admitted to the hospital at 7 P.M. She had been seen by her family doctor at 4 P.M., who then made a diagnosis of hysteria.

During the past ten months she had been under the care of several physicians and chiropractors, who were treating her for neurasthenia, glandular deficiency, and "multiple subluxations of the thoracic spinal vertebrae."

On admission, her urine was reported negative; blood pressure, 130/80; her respirations, pulse, and blood counts were within normal limits. She was hysterical and developed hystero-paralyses which, through suggestion, were relieved. Her reflexes were reported by a neurologist as normal. She was uncontrollable, and a hypodermic injection of morphine, 1/8 grain (8 mg.) with atropine sulphate, 1/150 grain (0.4 mg.), was administered. She was then seen by the house physician, who found her in good condition.

At 11:30 P.M. she became restless, and Doctor A. saw the patient, who was again in a hystero-cataleptic state, but responded to stimuli and suggestions.

However, at 1:30 A.M., I was called in to see the patient. One look at her (yes, that is a fact!) told me that she was dying. Her features were pinched; lips pallid; breathing stertorous and irregular (quasi Cheyne-Stokes type); pulse thready, weak, and irregular; and her pupils were dilated. Shortly the patient stopped breathing. An intravenous injection of epinephrin, 1:1,000, was given slowly, through a flat vein. Five minutes later she died, in spite of oxygen and carbon dioxide inhalations.

Requirements: Suggest the diagnosis, handling, treatment, and probable cause of death of this case, *giving reasons.*

Clinical Notes and Abstracts

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Progress in the Treatment of Intestinal Obstruction

*By R. A. Wise, M.D., New York City**

THE DOUBLE-LUMEN TUBE of Miller and Abbott gives great promise of being the one most effective method of treatment in cases of intestinal obstruction not due to strangulation. It is 10 feet in length and 16 French in diameter. A rubber septum extends throughout the tube, thus forming a double lumen. The inflation tube opens into a soft rubber balloon; the suction tube has several openings in its distal end and terminates in a metal tip.

The end of the tube is well lubricated with K-Y or some similar jelly and passed through a nostril into the pharynx. The patient is given a swallow of water and the tube readily passes into the stomach. It is introduced until the 75 cm. mark is reached. The patient is placed on his right side for a period of six hours, in which time the tip of the tube has usually passed into the duodenum. (These points on technic work equally well for the more commonly employed Wangensteen single-lumen tube.)

An empty glass syringe, of 30 cc. or greater capacity, may be attached to the tube and 30 cc. of air injected into it. If the tube is in the duodenum, the peristaltic action of the intestine will constrict the balloon and cause the plunger to be pushed back a short distance. A minute later the plunger will be pushed back again by another peristaltic wave. If the tube remains in the stomach, the plunger does not move or is steadily pushed back the entire distance. Another way of telling whether the tube is in the duodenum or not is by examining the fluid aspirated. Duodenal fluid is deeply bile stained; stomach contents are colorless, except where obstruction has existed for some time.

A roentgenogram may be taken to see if the tip is in the duodenum. If the tube has passed to the 75 cm. mark and is still to be seen in the stomach with the tip turned back, the tube should be withdrawn to the 60 cm. mark and one inch gently pushed down every fifteen minutes until the 75 cm. mark is reached, at which time the tube will often be in the duodenum. Fluoroscopic manipulation may be carried out: the left hand guides the tip of the tube to the region of the pylorus and the right hand pushes it through.

Once the tube is in the duodenum, 30 cc. of air is injected into the balloon, the balloon tube clamped, and constant Wangensteen suction applied to the suction tube. Each hour 6 inches more of tube is inserted until the 8 foot mark is reached. The suction tube is irrigated each hour with 20 cc. of water. After the balloon is inflated, it is carried with the tube down the intestinal tract. Suction is applied to each distended loop and fluid and gas are removed. *It is possible with this tube to deflate the entire gastro-intestinal tract in patients with obstruction from any cause whatsoever.*†

In a number of cases, its use has saved life and it has been more effective than an enterostomy. Where it does not prevent operation, it locates the obstruction, by means of roentgenograms and a limited barium injection.

*By Charles E. Rea, M.D., Minneapolis, Minn.**

Colonic obstructions differ, both clinically and in their treatment, from those of the small bowel. Patients with large-bowel obstruction rarely vomit until late in the disease; aspiration of the stomach contents in these patients does not reveal gastric retention nor fecal regurgitation, as in small-bowel ileus. The danger in colonic obstruction is that, if complete, the segment between the obstruction and the ileocecal valve acts as a closed loop and may perforate at its weakest point, the cecum. These patients should not be treated solely by suction applied to an indwelling duodenal tube, but by a preliminary colostomy.

In obstructions of the colon, a marker (a five-cent piece) is fastened to the umbilicus by adhesive tape and a "scout film" of the abdomen is taken. The marker gives an idea of the location of the obstruction, as well as serving as a unit of measure. To decompress the bowel, a transverse incision,

*Am. J. Surg., Sept., 1938.

*Am. J. Digest. Dis., Aug., 1938.

†And thus the bowel saves itself by its own peristalsis. The old surgical notion, that paralytic ileus represents a complete failure of intestinal activity, is refuted.—ED.

to the right or left of the upper midline of the abdomen, is made; this approach is preferred, as the exploration of the whole colon is easier. The colon will present itself directly into the wound and evisceration is less likely to occur. *This procedure has greatly lowered our mortality in the treatment of obstructive carcinomas.*

Progress in Gastro-Enterology

AT THE UNIVERSITY OF MINNESOTA HOSPITALS, these recent developments have been applied: (1) Treatment of peptic ulcers by bile-iron salts (Bilron, Eli Lilly Co.) 5 to 10 grains (0.325 to 0.65 Gm.), four times daily, has given encouraging results; (2) acute perforations of the gastro-intestinal tract have been studied experimentally by Wangensteen, and the significant fact brought to light that the presence of food increases the mortality of ulcer perforation ten times (it is, therefore, advisable to remove food from the stomach as soon as the diagnosis of perforation has been made; after removal of gas from the stomach, it is much easier to visualize free gas under the diaphragm).

Bleeding peptic ulcer patients have been treated by suction through an indwelling gastric tube. In this manner, the dangers of masked hemorrhage are obviated; the chance of perforation is lessened, as the stomach is kept empty; and bleeding is lessened because of the contracted stomach.

Acute cholecystitis is treated with rest in bed, hot packs to the abdomen, sedatives, intravenous and subcutaneous administration of fluids, and suction applied to an indwelling duodenal tube. There have been no deaths in any of the cases treated in this manner. Six to eight weeks after the acute attack, cholecystectomy is performed, if roentgenologic studies indicate poor emptying or stones.

Chronic cholecystitis, without roentgenologic evidence of stones or clinical evidence of common-duct obstruction, is treated by means of bile salts and a low-fat diet. *Dr. Rewbridge has presented x-ray evidence that stones in the gallbladder may be dissolved by bile salts.*

Differentiation between gallstones in the common duct and carcinoma may be established by use of the urobilinogen test of the feces. The normal individual excretes up to 200 mg. in the feces daily, as contrasted to the patient who has a common-duct obstruction due to carcinoma, usually of the pancreas, who usually excretes no urobilinogen. In the case of common-duct stone, the obstruction is rarely complete over a period of four days' testing.

*Am. J. Digest. Dis., Aug., 1938.

Diagnosis and treatment of intestinal obstruction: The important symptoms of intestinal obstruction are: intermittent, crampy, colicky pain; nausea; and vomiting. The obstructing mass or distended loop may be felt. If the bowel is strangulated, the abdomen is more tender and rebound tenderness is present in many instances. On auscultation, one hears borborygmi in mechanical obstruction; in paralytic ileus, the abdomen is silent.

We take a "scout" x-ray film and an upright film as soon as the physical examination is completed. *The roentgen film is the single most valuable laboratory method one has in the diagnosis and treatment of intestinal obstruction, if viewed in the light of the history and physical examination.* Normally, gas is never seen in the small intestine of adults; up to the age of three years, one sees gas in the small bowel of children, with roentgen rays, as a normal occurrence.

Simple, acute, mechanical obstruction is treated by an indwelling catheter in the duodenum, to which suction is constantly applied. In such cases, suction accomplishes everything that an enterostomy does, without operative risk. However, the condition of such patients must be constantly watched and "scout" films taken at least every 12 hours. Those cases of strangulation of the bowel, intussusception, and obstruction due to impacted gallstones are treated surgically. If gas is noted in the bile ducts, a fistula between the gallbladder and the intestine may be diagnosed and the probability of gallstone impaction assumed.

If the patient with acute, simple, mechanical obstruction does not improve with suction applied through the inlying duodenal tube, a complication should be suspected and laparotomy performed. Obstruction of the colon must be treated surgically. Postoperative paralytic ileus may be well treated by the indwelling duodenal catheter.

CHARLES E. REA, M.D.
Minneapolis, Minn.

Recent Advances in the Treatment of Pneumonia

THE SERUM TREATMENT may be of value in the treatment of bronchopneumonia, as well as in lobar pneumonia. Bacteriologic studies have shown that the pneumococcus is the causative agent in one-half of cases of bronchopneumonia.

It is far more important to determine the type of bacteria than to determine whether the pneumonia is lobar, broncho-, pleuro-, postoperative, or a mixed type. Thanks to the Neufeld technic, it is pos-

sible to determine rapidly the type of pneumococcus. If it is of types I, II, V, VII, VIII, or XIV, serum will be of value.

The serum should be given intravenously, after the patient or relatives have been questioned as to a history of hay fever, eczema, urticaria, or asthma, and especially if there is a sensitization to horse dander. Sensitivity to the serum may be determined by injecting a small amount intradermally or by dropping it in the eye. Patients having a history of hay fever, asthma or skin conditions due to horse dander, those showing a positive eye test or a strongly positive skin test, and those who have had injections containing horse serum during the preceding three months, should not be given a horse serum.— CHARLES L. ESHLEMAN, M.D., in *New Orl. M. & S. J.*, Aug., 1938.

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[Both diagnostic and therapeutic antipneumococcus serums, made from *rabbits*, are now available. These should be used in patients who are sensitive to horse serum.—ED.]

Recent Advances in Otolaryngology*

TREATMENT OF CHEMICAL BURNS OF THE CORNEA: A bland antiseptic solution (boric acid solution or a 1:10,000 solution of mercury bichloride) should be used to wash out the conjunctiva and wash away all irritating particles. If an acid has entered the eye, a sodium bicarbonate solution should be used at once; if an alkali, an acid (vinegar or *very weak* solution of some other acid) should be employed. Butyn or holocaine should be dropped in the eye, and prescribed, in the form of an ointment, for relief of pain. A pad should be used to keep the eye closed. If corneal ulceration is inevitable, atropine solution should be used. Lime burns may be treated by the twice-daily instillation of 5-percent solution of ammonium tartrate for several weeks. The solution must be freshly made up and neutralized.

Moccasin venom is of definite value in treating **postoperative bleeding.** The most important point in the use of venom is to give it in large enough doses to control the bleeding rapidly. A patient will tolerate 0.1 cubic centimeter daily up to fourteen days, if necessary, without any untoward symptoms. It has been much used in postoperative bleeding from the eye.

Treatment of Vincent's angina: Silver nitrate solution, in 25-percent strength, is considered the ideal topical agent, by many authorities. Others employ bismuth in solution, and arsphenamine in glycerin. Diluted hydrogen peroxide should be used for gargling or irrigation. Intramuscular injections of bismuth preparations or intravenous injections of neoarsphenamine may be used. Sodium cacodylate may be administered, either subcutaneously or intramuscularly.

The best treatment of **infectious conjunctivitis** is the application of ultraviolet rays, preceded by a few drops of a 2-percent solution of Mercurochrome.

Atrophic rhinitis may be relieved by swabbing a 3-percent aqueous solution of ichthyol upon the nasal mucosa. The effect is rapid and satisfactory. The mucous membranes recover a considerable degree of normal vascularity.

Frontal sinusitis: No non-surgical method of treatment of this condition surpasses the Dowling tamponing. Torpedo tampons, soaked in a 10-percent solution of Argyrol, are placed against the ostium of the sinus and in the chambers of the turbinals, and left in place for twenty minutes or half an hour, with the patient lying on his back; then removed.

Blepharospasm is usually relieved by the instillation of atropine into the conjunctival sac. One application is usually sufficient, and the effect of the treatment is lasting.

Tonsillitis: In acute tonsillitis, nothing is more effective than the old-fashioned practice of painting the tonsils with a 50-percent solution of guaiacol. There is momentary pain. The inflammation subsides almost miraculously and in twenty-four hours the tonsils regain their normal size.

R. M. ARMSTRONG, M.D.
Lexington, Kentucky.

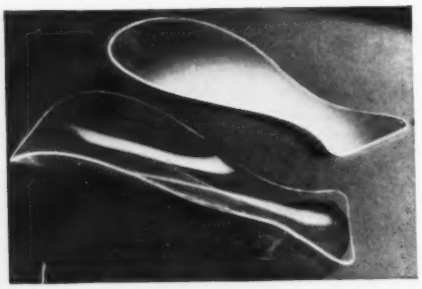
*E. E. N. & T. M. Sept., 1938.

Sulfanilamide in Chancroid

THE DIAGNOSIS OF CHANCROID may be made upon clinical grounds, since the ulcers have a characteristic appearance, but there is a specific test, which consists in the injection of a vaccine made from the Ducrey bacillus intracutaneously — Reenstierna's test.

The usual method of treatment followed by us consisted in securing free drainage of the ulcers and the application of weak antiseptic solutions, together with the injection of a specific vaccine. Ten cases which had relapsed or failed to improve sufficiently under this treatment were given sulfanilamide, in divided doses rangng from 50 to 105 grains daily. A rapid cure was effected in all cases, and appeared to be permanent. Sulfanilamide did not interfere with Reenstierna's test. This type of treatment was found suitable for ambulatory patients, but very careful supervision is necessary in this

type of practice to prevent reactions, due to the massive doses, from progressing to the dangerous stage.—R. C. L. BATCHELOR and R. LEES, in *Brit. M. J.*, May 21, 1938.



New Lucite Splints

MEDICAL SCIENCE is aided by the new transparent plastic Lucite splint, a du Pont product, which won first award in the scientific group of the Third Annual Modern Plastics Competition. It is now possible to observe the skin and wound without removing the splints, and also to take clear and accurate x-ray pictures through them.

The Lucite splint is very light in weight, but strong enough for the purpose. It permits a neat medical dressing, does not react to the skin, and, as a nonconductor of heat, feels neither hot nor cold. It can easily be shaped by dipping in boiling water and then bending, and, consequently, can be re-used and re-shaped.

Progress in Pediatrics

*By G. W. Kutscher, M.D., F.A.A.P., Asheville, N.C.**

THE ANNUAL MEETING of the American Academy of Pediatrics discussed these topics:

1.—The use of sulfanilamide:

A. *Erysipelas* is spectacularly cured in two or three days, but medication should be kept up for five to six days longer to prevent relapse.

B. Complications are prevented in *scarlet fever*, although the curative power is not as great as that of pooled convalescent serum.

C. *Gonorrheal ophthalmia* must be treated over a period of three weeks or a relapse will occur and a second course of treatment will not be effective.

D. *Gonorrheal vaginitis* is apparently *not* permanently cured by sulfanilamide.

E. Streptococcic and meningococcic *meningitis* are both cured readily, if the blood concentration is kept up to 10 mg. per 100 cc. by doses of 15 grains (1 Gm.) per 20 pounds of body weight. (This dose need not be exceeded in any condition.)

F. *Pyelitis* is promptly cured, especially as the drug works well in alkaline urine.

G. The fever becomes normal within a week when *undulant fever* is treated.

H. A dramatic resolution often takes place in *cervical adenitis.*

2.—*Tetany* in the newborn may be symptomless; or irritability, convulsions, and restlessness may be observed. Laryngospasm and carpopedal spasm are not often seen. A blood-calcium level below 8 mg. indicates tetany. Calcium should be given orally and *not* by intramuscular injection, as calcium nodules may arise in the muscles. Breast milk helps to prevent tetany in the newborn.

3.—In many nurseries, the baby is not washed until the tenth day after birth, and no oil baths or baths of any kind are given. The blood is washed away with a sterile cloth. The vernix caseosa disappears within 48 hours and leaves the skin in excellent condition. *Skin infections are rare.*

*By Temple Fay, M.D., Philadelphia, Pa.**

Vomiting in the infant is due to: (1) obstruction or inflammation of the gut canal; (2) irritating or poisonous foods; and (3) "high tide" or excessive fluid in the cranial cavity. The latter condition is promptly recognized in cases of brain tumor, abscess, meningitis, and hydrocephalus, but is frequently overlooked in *a normal baby who is being fed excessive fluid, beyond the ability of the eliminating mechanisms to care for the load.*

The worship of body weight has led to the sacrifice of many fine young brains. When vomiting occurs, a new series of mixtures and formulae are advised. Until the amount of fluid is reduced or the baby loses weight, the vomiting continues. What most of these fat, overweight, vomiting babies need is a little concentrated food or a period of starvation until the "high tide" in the brain cavity has been reduced.

If the baby's fontanelle is tense and his double chin complete, reduction in the fluid content of the formula may be all that is required. If the child is not hydrated or overweight, and vomiting continues, some cerebral pathosis must be suspected, in the absence of intestinal obstruction or irri-

*South Med. & Surg., Aug., 1938.

*Penn. M. J., Sept., 1938.

tating foods. A clinical guide to the amount of the fluid that may safely be given is found in the facts that dehydration leads to increased mental activity, even to delirium; whereas hydration results in mental torpor and finally stupor.

The infant, from the age of three weeks up to three months, can survive on 12 ounces of total liquids daily. Cereal, ripe banana, scraped beef, mashed potato, and bread soaked in milk can be given, with a spoon or finger pushing it to the back of the tongue so that it is swallowed, and normal development will continue. After one year of age, from 12 to 16 ounces of fluid, in addition to a solid diet, is sufficient for all bodily needs, except in hot weather or if fever is present. Our adult epileptic and post-traumatic patients use only from 20 to 32 ounces of liquid per day.

The normal infant and child should not be fed more than 32 ounces of fluid per day. If sweets or glucose (dextrose) are consumed in large quantities, storage of fluid in the brain cavity is favored because of the high glycogen reservoir of the brain.

The thin, underweight child frequently comes through an attack of pneumonia or an operation with flying colors, while the plump baby more frequently does not. When a kidney shut-down appears in the hydrated type, and fever shuts off skin elimination of fluid, "high tide" of fluid in the brain increases. Vomiting should be respected as a symptom of impending cerebral hydration.

Convulsions

Convulsions may occur as a result of brain irritation or as a complicating symptom of acute illness. Without regard to the cause, the seizure is associated with three fundamental changes in brain physiology: (1) Excessive effusion of fluid into the cells, the subarachnoid, and subdural spaces; (2) a relative anemia of the brain due to this swelling process, as blood is driven out of the brain; and (3) derangement of the action currents of the brain.

A convulsion occurs when the higher controlling conscious levels of function are curtailed by lack of oxygen, but still sufficient oxygen is present to permit continued activity of the primitive motor zone; otherwise syncope or stupor would result, instead of movement and a convulsion.

Treatment: (1) Spinal drainage (complete if possible); (2) magnesium sulphate, given by mouth or bowel; (3) curtailment of fluids in the patient's diet to the very minimum. Do not give water enemas, intravenous injections of fluids, or liquids by mouth, until the convulsive state is entirely under control. Glucose should not be administered intravenously.

Oxygen may be given by a tent or catheter. *Chloral hydrate, in doses of from 3 to 20 grains (0.20 to 1.325 Gm.), depending on the age of the patient, combined with bromides and repeated every 4 hours for recurring convulsions, is the most effective treatment.* If status epilepticus occurs, administer from 1 to 7 grains (64 to 468 mg.) of sodium phenobarbital, intravenously. Chloral hydrate, bromides, and barbiturates protect the brain cells against increased permeability.

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*By Edward Bauer, M.D., Philadelphia, Pa.**

The newborn baby should never be entrusted to a nurse until examination has indicated that it is in good condition; until mucus and meconium have been milked out of its mouth and gently swabbed out of its throat (aspiration with catheter, if respirations are not good); and until respirations and heart action are normal. *Until the air passages are clear, the baby should never be held with the head up.* The baby is then placed on a warmed table, blanketed, and gentle pressure made on the chest, especially in the axillae, with a quick release, about twenty times a minute, until respirations are established normally.

The baby is now wiped clean with warm sterile towels, quickly inspected for deformities and malformations, and the cord tied. It is then placed in warm crib, wrapped in blankets, and permitted to sleep for 6 hours. Bleeding from the cord necessitates the use of a new tie and an alcohol dressing. At the first sign of infection of the cord stump, it should be dressed continuously with wet dressings of 70-percent alcohol or 1-percent iodine solution in 70-percent alcohol.

The baby is not washed or oiled. No good results follow the use of either olive oil or the socalled antiseptic oils. Bathing exposes the skin surface for cooling.

Asphyxia pallida requires the preliminary riddance of the respiratory tract of obstruction and the introduction of oxygen and carbon dioxide through a catheter into the larynx or trachea. Respirations may be stimulated by gently slapping the buttocks with a warm towel; the use of hot and cold baths may be shocking to the infant.

In renewing my subscription to CLINICAL MEDICINE AND SURGERY I cannot do less than send a line of commendation to express my appreciation of the high quality of service which you have maintained during the past year.—E. S. S., M.D., Conn.

**Penn. M. J.*, Sept., 1938.

Diagnostic Pointers

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Chronic Cough

• Chronic cough is often due to chronic sinusitis. Chronic cough of children is very often due to upper respiratory tract disease.

Infection of the sinuses is often unsuspected unless an x-ray examination is made. The maxillary sinuses are almost invariably infected, either with or without concomitant involvement of one or more of the other sinuses. Early adequate treatment of the sinus infection, especially in children, relieves the cough and begins the resolution of the pulmonary disease. Neglect results in pansinusitis and bilateral diffuse bronchiectasis, in which cases treatment is of little avail.

Tonsillar infection is a common cause of cough, especially in young children. *The so-called smoker's cough is usually discovered to be a symptom of tuberculosis or bronchiectasis.* Elongated uvula is rarely, if ever, a cause of cough. Occasionally a "neurotic" cough will be found, which will respond to bromide therapy.—CARL JANOWSKY, M.D., in *E. E. N. T. M.*, Nov., 1938.

Common Ailments Caused by Syphilis

• Commonplace injuries that fail to heal, slow healing of operative wounds or tooth extractions, chronic bronchitis, arthritis, diabetes, goiter, gastro-intestinal disorders, urinary symptoms, gynecologic ailments, hernia, and the like, all may be associated with syphilis, but may be *discovered only by a routine Wassermann examination on all patients.*—A. B. CANNON, M.D., in *J.A.M.A.*, July 31, 1937.

Cardio-Respiratory Test

• A valuable test for the determination of the cardiac reserve is the respiration test of Frost. The patient blows up a spirometer seven consecutive times. The blood pressure is taken before and after the test. The normal heart should send the pressure higher with each of the efforts. The damaged heart fails to do this, and the stage where the break occurs in the systolic pressure and the degree of the decline are valuable data as to the loss of cardiac reserve. —O. W. BETHEA, M.D., in *South. M. J.*, July, 1938.

Undulant Fever As a Cause of Muscle Pains

• Chronic undulant fever may persist for many years with no more symptoms than those of muscle, joint, and nerve pain. Definite diagnosis may be made by the opsonic index test or by the skin test (injection of a small quantity of one of the commercial vaccines, well diluted with saline solution, *intradermally*). A positive reaction consists of a rapidly spreading, reddened, indurated, and edematous area, which begins within twenty-four hours. Scarlet red ointment may be necessary to control slough. *Treatment:* Foshay's serum or fever treatments.—H. G. NEWMAN, M.D., in *Rad. Rev. & M. V. M. J.*, Jan., 1938.

Undulant Fever in Children

• In children, undulant fever often presents itself abruptly, as contrasted to its insidious onset in adults. The symptoms at first are those of an upper respiratory infection. It is the persistence of the fever which points to some other type of infection. Sweating is often a prominent feature. Agglutination tests are usually positive, as are skin tests, although a positive skin test is not regarded as completely diagnostic.—C. HARDWICK, M.D., in *Proc. Royal Soc. Med.*, Feb., 1938.

Noncalculous Gallbladder

• From the results of various clinicians and my own 300 cases, I feel that patients with noncalculous chronic cholecystitis should not be submitted to surgery until a *complete* differential diagnosis is made and six months of medical therapy tried. In a certain number of cases, the final diagnosis will be chronic appendicitis, intercostal neuritis, hydronephrosis, peptic ulcer, or irritable colon.—M. J. BROWN, M.D., in *Am. J. Surg.*, Aug., 1938.

Perinephric Abscess

• A perinephric abscess may be diagnosed if the lateral pyelogram shows a uniform, anterior, arc-like displacement of the kidney and ureter on the affected side. After drainage of the abscess, the kidneys and ureters return to their normal positions.—J. G. MENVILLE, M.D., in *J. A. M. A.*, July 16, 1938.

Thumbnail Therapeutics

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Sulfanilamide in Brucellosis (Undulant Fever)

• The administration of sulfanilamide stimulates the defense mechanism of the body against the *Brucella* organisms, which are responsible for undulant fever or brucellosis. Clinical cure resulted following doses of from 60 to 90 grains daily for from three to seven days. Those patients whose agglutination test is negative can be diagnosed by estimation of the opsonocytophagic activity after administration of the drug.—H. WELCH, Ph.D., J. A. WENTWORTH, M.D.; and F. L. MICKLE, Sc.D., in *J. A. M. A.*, July 16, 1938.

Tannic Acid in Skin Wounds

• Tannic acid (2.5 percent solution), as used in the treatment of burns, is an excellent dressing for superficial wounds inflicted with a sharp knife or razor, particularly those in which a part of the tip of a finger has been shaved off. The tannic acid forms a firm coagulum that remains as a protective scab till the wound underneath has epithelialized completely. — W. H. OGILVIE, F.R.C.S., in *Br. M. J.*, Jan. 22, 1938.

The Steinach II Operation in Prostatic Cases

• Steinach's operation, orginally, was a simple ligation of both vasa deferentia. As little or no benefit resulted, in cases of prostatism, Niehans devised the Steinach II operation, or bilateral ligature of the vasa *efferentia*, between the testis and epididymis. My results with this procedure, in 33 cases, show that 25 cases were benefited, some very markedly. Advanced cases, with urinary retention, should not be operated upon by this method.—J. G. YATES BELL, M.D., in *Urol. & Cut. Rev.*, Oct., 1938.

Collapse Under Intravenous Anesthesia

• Lumbar puncture should be performed if the patient who has been receiving intravenous anesthesia stops breathing. Often the cerebrospinal fluid is under considerable pressure, the relief of which is followed by the return of respiration.—HAMILTON BAILEY, F.R.C.S. ("Emergency Surgery," William Wood and Company).

Wheat Germ Oil in the Treatment of Abortion

• Wheat germ oil (vitamin E) is of proved value in the prevention of repeated spontaneous abortion. It is of value in the treatment of threatened abortion if bleeding has not occurred. Such therapy should be begun as soon as a period is missed, and carried throughout the term.—J. K. CROMER, M.D., in *Med. Ann. Dist. Col.*, May, 1938.

Digitalis and Calcium

• It is not safe to use calcium intravenously with or shortly after the administration of digitalis. It is particularly dangerous if the patient is approaching digitalization. It is wiser to abstain from giving intravenous injections of calcium to any patient who is receiving digitalis, since the margin of safety is so narrow and the toxic effects can neither be foreseen nor successfully treated.—J. S. GOLDEN, M.D., and W. A. BRAMS, M.D., in *Ann. Int. Med.*, Jan., 1938.

Vitamin B_1 in Neuritis

• As yet there is no method of making a diagnosis of definite vitamin B_1 deficiency. It is recommended that every patient complaining of anorexia or neuritis should be given a trial intravenous injection of 10 mg. (3,000 international units). Improvement should be noted in a short time, if there has been a deficiency in vitamin B_1.

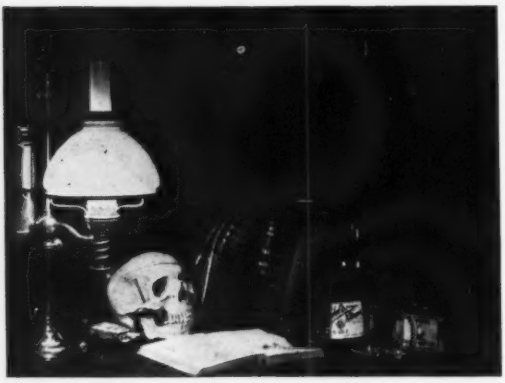
In typical cases, the injection of 3,000 units will relieve the pain of neuritis that has been uninfluenced by sedatives.—M. L. STERN, M.D., in *Med. Rec.*, Oct. 5, 1938.

Migraine

• Many sufferers from migraine have learned from experience that exclusion of eggs, cream, fat meat, fried food, and chocolates helps to prevent the attacks.—ARTHUR HURST, M.D., F.R.C.P., in *Br. M. J.*, Mar. 26, 1938.

Sulfanilamide and Tuberculosis

• Under experimental conditions, sulfanilamide has exerted a striking inhibitory effect upon the development of tuberculosis in the highly susceptible guinea pig.—A. R. RICH, M.D., and R. H. FOLLIS, JR., M.D., in *Bull. Johns Hop. Hosp.*, Jan., 1938.



THE DOCTOR'S STUDY

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Waukegan, Ill., is accompanied by a check for the published price of the book.

Good books, wisely chosen and properly used, like the food that they are, enrich life and enhance all the values known to life.—BURTON RASCOE.

Surgical Pathology

BOYD

SURGICAL PATHOLOGY. *By* WILLIAM BOYD, M.D., LL.D., M.R.C.P. (Ed.), F.R.C.P. (Lond.), Dipl. Psych., F.R.S.C., *Professor of Pathology, University of Toronto. Fourth Edition, Revised. 886 Pages, 476 Illustrations and 15 Colored Plates. Philadelphia and London: W. B. Saunders Co. 1938. Price, $10.00.*

THE object of this book is to present those aspects of pathology which will prove useful to the surgeon. For this reason, the volume is arranged in an entirely different style and content than usually obtains in texts on pathology. The practitioner will find that here, at last, is a pathologist who comes out of the laboratory and speaks of the clinical and pathologic sides of surgical practice *together*, as they should be. Space is devoted to discussion of those problems which are met with in everyday practice.

There are so many aphorisms that may be applied clinically that one feels like clipping them out and pasting them up, to reread at frequent intervals. The author's discussion on healing of wounds should be read by every general practitioner, surgeon, and intern. "A granulating surface presents a most efficient barrier against bacterial invasion. The delicate granulations may be easily injured however . . . the interfering and too-vigorous swab, the overfrequent change of dressings, the stream of strong antiseptic, may do more harm than good . . . the patient escapes the discomfort of a raw granulating wound, if healing is allowed to take place under a crust."

The discussion on actinomycosis is readable, to the point, and eminently practical. Boyd suggests a method of ready diagnosis, reiterates Cope's statement that actinomycosis is not a rare disease, but rather is rarely *diagnosed*, as it may occur in the most unlikely places and in the most atypical forms. (Your reviewer has seen two cases in three years, that were discovered only on microscopic examination of the pus from abscesses of the neck).

Boyd doubts the diagnosis of chronic appendicitis in most patients showing pain and tenderness in the right lower abdominal quadrant. "Removal of the appendix affords relief (from the symptoms of visceroptosis) for a few weeks, largely because the patient is kept in bed, but when she returns home the discomfort soon returns." He suggests that the problem will be solved by the surgeon, who keeps records of the course of patients whose chronically inflamed appendixes have been removed, rather than by the pathologist, who is often expected to find some trace of inflammation in every appendix removed. (Your reviewer remembers a surgical report a few years ago of 4,000 appendectomies, primary and secondary, in not one of which the appendix was reported as normal.) If no fee could be charged for the removal of a "chronic appendix," the picture would be much more distinct.

This text well brings out the pathology of today—"the pathology of the living."

R. L. G.

Obstetrics

De LEE

PRINCIPLES AND PRACTICE OF OBSTETRICS. *By* JOSEPH B. DELEE, A.M., M.D., *Professor of Obstetrics and Gynecology, Emeritus, University of Chicago; Consultant in Obstetrics, Chicago Lying-in Hospital and Dispensary; Consultant in Obstetrics, Chicago Maternity Center. 1,227 Illustrations; 271 in Color. Seventh Edition, Reset. Philadelphia and London: W. B. Saunders Company. 1938. Price, $12.00.*

De LEE has done it again! With each edition, it has seemed almost impossible that any improvements could be made in

this standard work, yet here again we find new illustrations of the same high order (both artistically and scientifically) and the well known step-by-step, colored operative sketches, which have appeared in the past editions.

This is a perfect text for the student, who can study an actual delivery with the pictures of successive stages of labor, imprinting on his mind what the clinical appearances will be when he sees his first case. Several types of local anesthesia are depicted and the proper performance of mediolateral episiotomy shown in pictures.

Many subjects were rewritten and new advances listed in detail, notably the newer anesthetics and analgesics, sulfanilamide treatment of puerperal infections, treatment of medical complications of pregnancy, and the new scalp traction in placenta previa.

Dr. DeLee's statement, "*There is hardly an emergency that a man may meet, at home or in hospital, that has not been described,*" is true.

Diseases of the Chest

NORRIS AND LANDIS

DISEASES OF THE CHEST and Principles of Physical Diagnosis. *By* G. W. Norris, A.B., M.D., *Formerly Professor of Clinical Medicine in the University of Pennsylvania; Chief of Medical Service "A," Pennsylvania Hospital; Erstwhile Colonel, M.C.U.S. Army; and* H. R. M. Landis, A.M., M.D., Sc.D., *Formerly Professor of Clinical Medicine in the University of Pennsylvania. Sixth Edition, Revised. 1019 Pages, 478 Illustrations. Philadelphia and London: W. B. Saunders Company. 1938. Price, $10.00.*

IT IS difficult to select one portion of this book for praise, as all chapters are clear, clinical, concise. That on roentgen-ray study of the heart covers a disputed field with a maximum of facts and a minimum of theory, emphasizing, on one hand, that at present we have no *entirely* accurate method of measuring the heart with roentgen rays, and on the other that clinical experience with this diagnostic tool soon enables one to detect slight enlargements of the heart and aorta. Illustrative sketches indicate the normal size and outlines of the heart, and deviations from that norm are discussed.

The authors reflect the current trend of thought in that they disparage the too-often-made diagnosis of "chronic bronchitis," and prefer to have an accurate diagnosis of the true *causative* condition of the bronchitis, such as a chronic renal lesion, asthma, emphysema, faulty circulation, chronic alcoholism, or bronchiectasis.

Extensive revisions have been made on the chapters covering coronary disease, hypertensive heart disease, electrocardiography, cardiac arrhythmias, functional circulation tests, venous pressure, bronchial asthma, bronchiectasis, lung abscess, and the relation of sinus disease to infections of the lower air tract.

The emphasis has been placed on the clinical aspects, rather than on the mechanical study of the heart and lungs. The student and any practitioner whose work involves a study of the chest or its contents will do well to have this Norris and Landis text at hand.

Cranio-Cerebral Injuries

MUNRO

CRANIO-CEREBRAL INJURIES. Their Diagnosis and Treatment. *By* Donald Munro, A.B., M.D., F.A.C.S., *Surgeon in Chief for Neurological Surgery at the Boston City Hospital; Assistant Professor of Neurological Surgery, The Medical School of Harvard University; Associate Professor of Neurological Surgery, The Medical School of Boston University. London, New York, Toronto: Oxford University Press. 1938. Price, $4.00.*

THE general surgeon and practitioner, who must treat the great majority of cranio-cerebral injuries, will welcome this book. In plain, brief form, it presents the essential points in the diagnosis and treatment of such injuries.

The chapter on history and examination is the shortest and clearest exposition of what to ask for and to look for that we have seen. Emphasis is laid, as it should be, upon the presence of unconsciousness, which accompanies every cerebral injury, and three types of cases in which unconsciousness is denied by the patient or by those around him are explained, so that the physician may not lose valuable time in instituting treatment

Every practitioner and roentgenologist should read the section on roentgenology of the skull. Often one finds that seriously ill skull-fracture patients are subjected to extensive roentgen-ray studies, thus decreasing their slim chances for life. As Munro says, "The information obtained is often inconclusive and of little therapeutic value." He believes that the only excuse for making x-ray studies of the head at once, is to rule out a fracture which passes through the middle meningeal artery or frontal sinus.

Full details of medical and surgical treatment are given. The general surgeon who lives at a distance from a neurosurgeon will find herein all the detail that he needs to know to care for these patients adequately, in a surgical or medical way.

Sex Life and Technic

HIRSCH

THE POWER TO LOVE. A Doctor's Guide to Ideal Marriage Relationship. *By* Edwin W. Hirsch, B.S., M.D. *DeLuxe Edition. New York: Garden City Publishing Co., Inc. 1938. Price, $1.49.*

THE first edition of this excellent work appeared in 1934 (reviewed in CLIN. MED. & SURG., Oct., 1934, page 498) and was priced at $4.00. It is well that this second edition is offered at a lower figure, so that more physicians can read and recommend it, as it is one of the best of the

steadily growing list of books on erotology, or the arts of love, and covers the entire field as fully as is necessary for practical purposes.

The sex invalid who consults a physician, expects him to find out the cause of the trouble and remedy it, but does not tell him the facts of the case, until they are dragged out of him by questioning. Here the medical man will find many suggestions which should help in eliciting an informative history. The chapter on sex technics is especially clear and valuable, and should be the means of clearing up many difficulties along this line.

Dr. Hirsch's style is direct and pleasing and though he discusses, in detail, matters of the utmost intimacy, he is as far from prurience as he is from prudery, so that the volume may safely be recommended to intelligent couples who are having difficulties in their sex life, as well as being an extremely practical and useful text for study by practicing clinicians in almost every field.

Dysmenorrhea

DAVIS

DYSMENORRHEA. Its Etiology, Pathology, and Treatment. *By* ALBERT A. DAVIS, M.D., Ch.M., F.R.C.S., *Hon. Gynecological Surgeon to Out-Patients, The French Hospital, London; Consultant Gynecologist and Obstetrician, London County Council; Late Hunterian Professor, Royal College of Surgeons, etc. London, New York and Toronto: Oxford University Press. 1938. Price, $4.50.*

TO THOSE physicians and surgeons who have wished to *know* the causes and treatment of dysmenorrhea, this monograph will be welcome. It will well replace most of the multitude of published articles on painful menstruation, as it is neither biased nor incomplete.

Dr. Davis has assembled and condensed the most recent, scientific work on the uterine musculature, its physiology and pathology; on hormones and their relation to dysmenorrhea; on the various types of dysmenorrhea (congestive and spasmodic); and on the medical and surgical treatment.

He makes no plea for any particular type of treatment, but presents the facts and lets the intelligent reader make his selection. Unlike certain specialists who write, he does not scorn simple therapy and methods of treatment that may be applied by the general practitioner. This is very much to the point, because the average practitioner sees many cases of mild to moderate dysmenorrhea, and very rarely one severe enough to even cause him to consider presacral neurectomy.

Many of the beliefs that we hold concerning dysmenorrhea are entirely fanciful and not capable of being substantiated. As scientific men, it is good to know which of our beliefs are clinical guesses and which are sound fact. We know, for example, that cervical dilatation will cure many cases of spasmodic dysmenorrhea. Why, we do not know, as the old idea of the pain being due to the uterine muscle endeavoring to force out menstrual blood has been discredited. Davis explains the relief as being due to a tearing and interruption of the sympathetic pain fibers to the cervix.

"There are few minor gynecologic disorders so prevalent, and fewer more generally incapacitating, than dysmenorrhea. It is responsible for an appalling amount of physical and mental distress and is economically a most costly disability. The majority of girls and young women suffer from it in some degree, and although in most cases, it is a trivial complaint, in many the pain is severe enough to produce a total periodic incapacity. It is calculated that from 1 to 5 percent of all young women are confined to bed for one or more days each month on its account."

Spinal Anesthesia

MAXSON

SPINAL ANESTHESIA. *By* LOUIS H. MAXSON, A.B., M.D., *Practicing Specialist in Anesthetics; Former Chief Anesthetist, Harborview (King County) Hospital, Seattle, Washington. Foreword by* W. WAYNE BABCOCK, M.D., LL.D., F.A.C.S., *Professor of Surgery, Temple University School of Medicine. 69 Illustrations. Philadelphia, London, New York, Montreal: J. B. Lippincott Company. 1938. Price, $6.50.*

THIS is a much needed text for the practitioner of surgery. To date, practically all the literature on spinal anesthesia has been a presentation of one particular method, usually written by one who was very proficient in that method and who obtained results that could not be matched by the beginner or occasional operator. Dr. Maxson's book lists all the outstanding technics, and cites the advantages, disadvantages, and occasions for their use. He considers the physiologic basis for spinal anesthesia, so that the surgeon will be freed from the feeling of empiricism.

"In spinal anesthesia, the surgeon obtains much from little. By no other known method does such intense and prolonged analgesia, from such a minute dose of an anesthetic drug, result" (Babcock's introduction).

Full directions are given as to safeguards, technics, complications, indications, and contraindications. Every contingency is explained and treatment outlined.

The New International Clinics

THE NEW INTERNATIONAL CLINICS. *Edited by* GEORGE MORRIS PIERSOL, M.D., *Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia, Pa. Vol. 3; New Series 1 (old 48th). 1938. Philadelphia, Montreal, New York: J. B. Lippincott Company. Price, $3.00 for current year; $5.00 for back years.*

THE New International Clinics continue to be the best diversified and most concise of the "clinic" volumes. The subjects covered are of interest to general practitioners, internists, and surgeons.

The broad advances in each field are

here condensed into a few pages. Wilder's article on Addison's Disease is a classic. He speaks of the period of complete pessimism which persisted up to 1931; of the short term of great enthusiasm for cortin (which is valuable chiefly in crises); of the recurrence of therapeutic pessimism concerning the long-term outlook for such patients; and lately of the brilliant work which demonstrates that the patient with adrenal insufficiency may often be kept well by restricting potassium and adding extra sodium.

A very frank case history is given concerning the failure to diagnose a retroperitoneal hernia. The fatal outcome might have been averted by a systematic investigation of the bowel from the ileocecal valve to the duodenojejunal flexure.

Beardwood gives simple directions for diagnosing and treating diabetic coma. Every diabetic patient should have a copy of his instructions as to the regime they are to pursue when they do not feel well and acidosis may be impending.

Kosmak discusses modern obstetric trends and procedures. Cannon and Walsh bring up points of practical value in their discussion on "Lipoid Pneumonia and Some Potential Dangers of Intranasal Medication." It is well known that lipoid pneumonia practically occurs only in babies, children, or aged persons who have taken oil either through the mouth or nose, in the form of mineral oil or oily nose drops. Ephedrine in physiologic saline solution may be advantageously substituted (one-fourth of one percent for babies; one-half percent for adults) for use in the nose, and no danger of oil pneumonia is incurred.

It will be news to many physicians, who have been using the patch test to determine the exact substance to which their patients are allergic, that this test may be dangerous. New sensitivities may be thus instituted or multiple sensitivities determined.

The sulfanilamide symposium is highly practical. Moore's report on the efficacy of sulfanilamide in the treatment of otitis media, mastoiditis, and pharyngitis, as well as acute cervical adenitis, is of great value.

New Books Received

The following books have been received in this office and will be reviewed in our pages as rapidly as possible.

CLINICAL ELECTROSURGERY. *By* Gustavus M. Blech, G.C.S., G.C.G., M.D., LL.D. *With Chapters by* Hector Alfred Colwell, M.B., Ph.D., D.P.H., L.R.C.P., M.R.C.S., *and* Brian Wellington Windeyer, F.R.C.S., D.M.R.E. *New York: Oxford University Press. 1938. Price, $4.00.*

THE SURGERY OF ORAL AND FACIAL DISEASES AND MALFORMATIONS. Their Diagnosis and Treatment Including Plastic Surgical Reconstruction. *By* George Van Ingen Brown, D.D.S., M.D., C.M., F.A.C.S. *4th Edition, Thoroughly Revised. Philadelphia: Lea & Febiger. 1938. Price, $10.00.*

PHYSICAL DIAGNOSIS. *By* Richard C. Cabot, M.D. *and* F. Dennette Adams, M.D. *12th Edition. Baltimore: William Wood & Company. 1938. Price, $5.00.*

CANCER—ITS DIAGNOSIS AND TREATMENT. *By* Max Cutler, M.D., *and* Franz Buschke, M.D. *Assisted by* Simeon T. Cantril, M.D. *Philadelphia and London: W. B. Saunders Company. 1938. Price, $10.00.*

CONTROL OF CONCEPTION. *By* Robert Latou Dickinson, M.D., F.A.C.S. *A Clinical Medical Manual with Numerous Original Illustrations by the Author. 2nd Edition. Baltimore: The Williams & Wilkins Company. 1938. Price, $3.50.*

BACTERIOLOGY FOR MEDICAL STUDENTS AND PRACTITIONERS. *By* A. D. Gardner, M.D., F.R.C.S. *2nd Edition. New York: Oxford University Press. 1938. Price, $2.25.*

CLINICAL LABORATORY METHODS AND DIAGNOSIS. A Textbook on Laboratory Procedures with Their Interpretation. *By* R. B. H. Gradwohl, M.D. *2nd Edition. St. Louis: The C. V. Mosby Company. 1938. Price, $12.50.*

PRACTICAL BIRTH-CONTROL METHODS. *By* Norman E. Himes, Ph.D. *With the Medical Collaboration of* Abraham Stone, M.D. *Introduction by* Robert L. Dickinson, M.D. *Foreword by* Havelock Ellis. *New York: Modern Age Books, Inc. 1938. Price, $.05.*

THE NEW INTERNATIONAL CLINICS. *Edited by* George Morris Piersol, M.D. *Volume IV, New Series One. December. Philadelphia: J. B. Lippincott Company. 1938. Price, $3.00, current year; $5.00, back years.*

ORTHOPEDIC APPLIANCES. *By* Henry H. Jordan, M.D. *Foreword by* E. G. Brackett, M.D. *New York: Oxford University Press. 1938. Price, $4.00.*

THE EMOTIONAL FACTOR IN VISCERAL DISEASE. *By* H. G. McGregor, M.D., M.R.C.P. *Foreword by* R. D. Gillespie, M.D. (Glas.), F.R.C.P. (Lond.), D.P.M. (Lond.) *New York: Oxford University Press. 1938. Price, $3.00.*

DISEASES OF THE NOSE, THROAT AND EAR. *By* W. Wallace Morrison, M.D. *Philadelphia and London: W. B. Saunders Company. 1938. Price, $5.50.*

SURGICAL TECHNIQUE AND PRINCIPLES OF OPERATIVE SURGERY. *By* A. V. Partipilo, M.D., F.A.C.S. *Foreword by* Alton Ochsner, M.D. *3rd Edition. Chicago: Chicago Post-Graduate School of Surgery. 1938. Price, $10.00.*

FUNCTIONS OF HUMAN VOLUNTARY MUSCLES. *By* Norman D. Royle, M.D., Ch.M., F.R.A.C.S. *Sydney and London: Angus & Robertson, Ltd. 1938. Price, $1.15, postpaid.*

AS OTHERS SEE YOU. The Story of Plastic Surgery. *By* Henry J. Schireson, M.D. *New York: The Macaulay Company. 1938. Price, $3.00.*

SHORT-WAVE THERAPY. The Medical Uses of Electrical High Frequencies. *By* Dr. Erwin Schliephake *(Docent of the Univ. of Giessen). Authorized English Translation by* R. King Brown, B.A., M.D., D.P.H. *From the Third German Edition. With a Foreword by* Elkin P. Cumberbatch, M.A., M.B., B.Ch. (Oxon.), F.R.C.P. (Lond.), D.M.R.E. (Camb.) *2nd English Edition. London: The Actinic Press, Ltd. 1938. Price, $5.50, postpaid.*

MARIHUANA. America's New Drug Problem. A Sociologic Question and Its Basic Explanation Dependent on Biologic and Medical Principles. *By* Robert P. Walton. *With a Foreword by* E. M. K. Geiling. *Philadelphia: J. B. Lippincott Company. 1938. Price, $3.00.*

Medical News

Courtesy of Westinghouse Electric & Mfg. Co.

New Portable Electrostatic Air Cleaner

A NEW, SELF-CONTAINED, portable electrostatic air cleaner has recently been announced by the Westinghouse Company. This Precipitron room unit has been designed especially for the relief of hay-fever and pollen-asthma sufferers, but is also applicable for general air cleaning in an average-sized room. It operates from the standard 115-volt outlet, drawing approximately 80 watts, and circulates 240 cubic feet of air per minute. It may be adjusted to draw in fresh air from the outside, or to recirculate the air in the room. Dirt particles and foreign matter in the air are charged in an ionizing section and then precipitated on the charged plates of the dirt-collector cell.

Postgraduate Institute

THE FOURTH ANNUAL Postgraduate Institute of the Philadelphia County Medical Society will be held in the Bellevue-Stratford Hotel, Philadelphia, during the week beginning March 13, 1939. The subjects to be considered are those embraced by the terms *Blood Dyscrasias* and *Metabolic Disorders*. These will be further subdivided for convenience in instruction into 86 clinical lectures, with open forum discussion for each topic, delivered by as many individual specialists of national distinction. For complete information write to The Philadelphia County Medical Society, Twenty-first and Spruce Streets, Philadelphia, Pa.

Opening in Illinois

DUE TO FAILING HEALTH, an Illinois physician, practicing in a well-located town of 600 population, surrounded by good farming country, must give up active practice and will be glad to introduce a successor. For full particulars, write to Dr. J. J. Hinkley, Westfield, Ill.

Popular Syphilis Brochure

TO ASSIST TEACHERS, leaders of health-education classes and discussion groups, and public health nurses in carrying on the campaign against syphilis, a simply-worded but authoritative brochure, "Behind the Syphilis Campaign," is now available, and may be procured for ten cents from Public Affairs Committee, Inc., 8 West 40th St., New York, N. Y.

Mississippi Valley Medical Society 1939 Essay Award

THE Mississippi Valley Medical Society offers a cash prize of $100.00, a gold medal, and a certificate of award for the best unpublished essay on a subject of interest and practical value to the general practitioner of medicine. Entrants must be members of the American Medical Association. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society. All contributions *must not* exceed 5,000 words, be typewritten in English in manuscript form, submitted in five copies, and must be received *not later* than May 1, 1939. Further details may be secured from Harold Swanberg, M.D., Secretary, 209-224 W. C. U. Building, Quincy, Ill.

SEND FOR THIS LITERATURE

To Assist You in Obtaining New and Worthwhile Catalogs, Booklets, Reprints, etc., "C. M. & S." will forward your requests for any literature listed in this Department.

Make Use of this Department
Both Literature and Service Are Free

1 The Pneumonic Lung. Its Physical Signs and Pathology. Denver Chemical Mfg. Co.

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